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INTERNATIONAL RAIL TRANSPORT

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INTERNATIONAL TRANSPORT AND COMMUNICATIONS

INTERNATIONAL RAIL TRANSPORT

by

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PREFACE

IN September 1940 Chatham House entrusted to Sir Osborne Mance the preparation of a study of International Transport and Communications. It was later decided to issue the work in separate sections, four of which, *International Telecommunications*, *International Air Transport*, *International River and Canal Transport* and *International Sea Transport*, have already been published. At Sir Osborne Mance's suggestion I undertook the preparation of the present volume. It was prepared in the summer of 1945 and embodies such conclusions as it was found possible to suggest at that date. Unfortunately, publication has been delayed, but at a later stage, when the series has been completed, it is hoped to summarize in a final volume the result of the work as a whole with such amended and additional conclusions as may appear to be justified when post war international relations have taken on a more settled aspect.

While the responsibility for the opinions expressed in the present volume is entirely my own, I have been fortunate in obtaining the assistance of a number of experts, who have spared no trouble to ensure the accuracy of the facts and to whom I am indebted for many valuable suggestions. I am also indebted to the Foreign Office, the Ministry of War Transport, the Railway Research Service and other organizations for the facilities for research which have been placed at my disposal and for permission to use information which would not otherwise have been available.

Finally, it would have been quite impossible for me to have undertaken the study without the invaluable assistance of Mr J E Wheeler, who has had the difficult task of collecting and checking the information from many sources, and even since his return to the International Labour Office has contributed many valuable suggestions. Since his departure the work of collecting supplementary information and of checking the final manuscript has rested in the able hands of Dr Paul Christophersen.

R L WEDGWOOD

April 1946

GENERAL INTRODUCTION

THE organization of railways has always been national in its inception, international organization has been a plant of slow growth and has taken different shapes in different regions of the world. In Europe, with its numerous State-owned railways, it has taken the form of agreements or, in fact, treaties between national Governments, as well as of agreements between railway Administrations, and the distinction is one which must be kept constantly in mind if we are to form a true impression of the organization which has been evolved. In North America, where most of the railways are privately owned and national differences are less pronounced, a simpler and far more comprehensive organization has been built up, based wholly on voluntary agreements between Administrations. Whatever may be the model to be followed, it is evident that there is room and need for a further and substantial expansion of international organization, if railways are to play the part in world development which they are capable of playing.

All forms of transport will have their share in that development, and the future will no doubt have many changes in store. Air transport will cater increasingly for high class passenger and freight traffic over long distances and long distance services, whether by rail or sea, will reflect the changed conditions. On the other hand, it may be doubted if the growth of road transport will exercise any outstanding influence on the contribution which railways will be in a position to make to international transport as a whole. It is evident that there is much to be gained from a well considered co-ordination of all forms of transport, and that some advance can and should be made in this direction. At the same time, a complete scheme of co-ordination is still, and is likely for some time to remain, outside practical politics.

If we turn our eyes from such a picture of general co-ordination to the co-ordination of the railways themselves as a single form of transport, we shall be struck with the perfection of that co-ordination in certain spheres, such for instance as the formulation of international time-tables, and at the same time with the vast field which is still left open for further co-ordination and thereby for further improvement in the international usefulness of the rail transport service.

There are only two international bodies designed to deal with railway questions in every part of the world—the League of Nations Transit Organization, a governmental body, and the International Railway Congress Association, a governmental and administrative

body of a purely deliberative character, occupied solely in investigation and periodical discussion. There is nothing which corresponds with the Universal Postal Union, the International Commission for Air Navigation or the International Telecommunication Union. This state of affairs reflects the national or, at most, regional character of railway development.

Many bodies of world wide scope are concerned in some of their activities with railway transport, the International Labour Office, for instance, or the International Chamber of Commerce, and it seems reasonable to suppose that the development of world intercourse will bring increasing need for some general international organization more fully representative of railway transport, whether on its governmental or administrative side, as a service of world wide significance.

ABBREVIATIONS

A A R	Association of American Railroads
A E	Archiv für Eisenbahnwesen
B C C	Bureau central de compensation
B I C	Bureau international des containers
B F S P	British Foreign and State Papers (see Note on Sources)
B U I C	Bulletin de l'Union internationale des chemins de fer
C C M R	Comité de circulation du matériel roulant dans l'Europe centrale
C E I	Commission électrotechnique internationale
C I M	Convention internationale concernant le transport des marchandises par chemins de fer
C I T	Comité international des transports par chemins de fer
C I V	Convention internationale concernant le transport des voyageurs et des bagages par chemins de fer
C m d	Command Papers published by H M Stationery Office
D C	Dispositions complémentaires
G R E M	Premier groupement régional des chemins de fer européens membres de l'U I C
I A T A	International Air Traffic Association
L N T S	League of Nations Treaty Series (see Note on Sources)
M E R	Mitteleuropäisches Reisebüro
R I C	Regolamento internazionale carrozze, Union internationale des voitures et fourgons
R I V	Regolamento internazionale veicoli Union internationale des wagons
U I B C	Union internationale pour l'émission de billets à coupons combinés
U I C	Union internationale des chemins de fer
V D E V	Verein deutscher Eisenbahn Verwaltungen
V M E V	Verein mitteleuropäischer Eisenbahn Verwaltungen
V T W	Verkehrstechnische Woche
Z V D E V	Zeitung des Vereins deutscher Eisenbahn Verwaltungen
Z V M E V	Zeitung des Vereins mitteleuropäischer Eisenbahn Verwaltungen

I EUROPE ORGANIZATION BEFORE THE FIRST WORLD WAR •

INTRODUCTORY

BEFORE the war of 1914-18 passenger travel and freight carriage in Europe had reached an advanced stage of development, both in volume and in freedom, with the important exception of certain national and international waterways, the railways had an almost complete monopoly in meeting inland requirements. International road transport was confined to a small volume of pleasure travel conducted under considerable difficulties.

The development of rail traffic was not achieved without a high degree of international co-operation between the railway Administrations themselves and between the Governments concerned. There were many special agreements between individual Administrations in regard to particular facilities—through services, exchange accommodation, etc.—and some of these go back to very early days in the development of the railway system of Europe.

Nevertheless, it was soon felt that something more was required. It became clear that, if international traffic was to develop freely, there must be some nucleus of international agreement upon physical standards, and at the same time some basis of agreed legislation defining the obligations of the railways to one another and to the public. This was evidently beyond the scope of individual Administrations, Governments alone could take the action required. Considerations such as these gave the impulse towards the establishment of international understandings.

That impulse followed two main directives, both originating primarily from the initiative of the Swiss Government. First in priority came the effort to establish uniform commercial conditions for international transport, second the endeavour to standardize physical factors in the exchange and through conveyance of rolling stock. It was the second line of action which first achieved success, the *Unite Technique*, founded in 1882, is, as its full name proclaims, an International Conference for promoting Technical Uniformity on Railways. The realization of uniformity in commercial conditions of international transport took longer to accomplish, it was attained in the Berne Convention of 1890 and the foundation in 1893 of the Central Office for International Railway Transport. Both these organizations had their seat at Berne, and both of them directed their activities to the maintenance and development of inter-governmental agreements, binding, in respect of international traffic,

on the railway Administrations in all the countries parties to the agreements

It is proper to give such inter governmental agreements priority of place in describing the international organization of rail transport as it existed before 1914. But it is well to bear in mind that historical priority has to be conceded to the arrangements made between individual railway Administrations, whether inside the boundaries of one State or passing outside such boundaries and becoming truly international in character. Such arrangements or agreements are here spoken of as inter administrative, to distinguish them from inter governmental agreements, which have the force of public treaties.

These inter administrative agreements remained to a large extent regional in character. The most notable of the organizations formed under such agreements, the Verein Deutscher Eisenbahn-Verwaltungen (V D E V—Union of German Railway Administrations) began in 1846 as a Union of Prussian Railway Administrations only, it was extended in the following year to comprise other German railway managements, but even in its latest phase before the first world war, when it included 92 railways, it covered only Germany, Austria Hungary and a few of the neighbouring countries (see p. 5). Nevertheless, it played an important part in the organization of international rail transport.

It was inevitable that there should be some overlapping between the regulations adopted by such regional bodies as the V D E V and the regulations based on the Berne Convention. The development of these two independent lines of action, beginning, so to speak, at opposite ends of the scale, clearly carried with it great possibilities either for conflict or co-operation. It is remarkable that so little conflict arose, and that so notable a measure of co-operation was, in fact, achieved.

It is desirable, at this stage, to trace in its main outlines the progress made up to the outbreak of the first world war, leaving to a later stage (pp. 13–30) a full account of the activities of these organizations and their ultimate development.

INTER GOVERNMENTAL ORGANIZATIONS

Technical Standardization of Rolling Stock and Permanent Way (Unite Technique)

On the initiative of the Swiss Federal Government a first Technical Standards Conference was held at Berne in 1882. It was attended by representatives of Austria-Hungary, France, Germany, Italy and Switzerland. Its Final Protocol, dated 21 October 1882, laid down

the conditions to be fulfilled by rolling stock passing between the countries named, together with provisions relating to gauge, clearance, etc

A second Conference (10 States) was held at Berne in 1886, and a third (16 States) in 1907. The regulations of 1907 were revised in 1911 and 1912. All continental European Governments whose main line railways were of standard gauge joined in the organization, which became known, for short, as the 'Unite Technique'. The countries with broad gauge railways took no part.

The Unite Technique issued books setting out the standard requirements laid down in their regulations, covering gauge, construction details, maintenance of wagons on foreign lines and loading. The various Governments implemented the decisions reached by the Unite Technique, but this legislation is not (like the Berne Convention referred to later) embodied in international treaties.

The administration was in the hands of the Swiss Federal Council.

International Conveyance of Merchandise Traffic (Berne Convention)

The first move to establish an inter governmental understanding on the commercial conditions of rail transport was taken by the Swiss Government in 1874. At the suggestion of two Swiss lawyers, Christ and de Seigneux, the Government invited the Governments of the four neighbouring countries to a conference for the unification of the legal provisions governing the carriage of goods by rail. The suggestion was accepted, and the Swiss Government was invited to draft an international convention. A series of inter governmental meetings was held at Berne from 1876 onwards, and the range of the discussions was considerably enlarged. At these meetings the Berne International Convention on the Transport of Merchandise by Rail took shape. It was finally ratified on 14 October 1890, and came into force on 1 January 1893. The participating Governments were those of Austria-Hungary, Belgium, France, Germany, Italy, Luxemburg, the Netherlands, Russia and Switzerland.

The Convention, known as the C.I.M. (Convention Internationale concernant le Transport des Marchandises par chemins de fer), when ratified, became by legislation part of the law of each ratifying country. It became, therefore, obligatory as regards international traffic on the railway Administration or Administrations of that country. It was in fact, by a voluntary extension, often adopted as applicable to national as well as to international traffic.

On the other hand, there was no obligation upon any Government to enter into the agreement, and it was open to any of the Governments who did so to dissent from particular items included in the

agreement. There was no machinery for bringing compulsion to bear on any individual Government in such a case. It was felt, probably with justice, that the desire to share in international traffic would be sufficient to secure acceptance of uniform standards, since any dissenting State would thereby place itself at a disadvantage in the necessary organization of exchange.

The Convention defined the obligations accepted by the participating States, the conditions of the contract entered into, the responsibility of the railways to one another and to the senders, conditions of packing, delivery, etc. It laid down in particular that there was to be no discrimination between one sender and another, and that railway tariffs were to be published and accessible to all, but it did not prescribe the actual tariffs or charges.

It established a Central Office at Berne, under the supervision of the Swiss Federal Council, whose duty it was, among other things, to receive suggestions for modifications of the Convention, to prepare for the periodical meetings of the Conference, to arbitrate on disputes, and to facilitate financial relations between the member Administrations.

In order to supplement the provisions of the C I M, a Union of Railway Administrations was established in 1902 which in turn set up a special Committee, known as the C I T (*Comité International des Transports par chemins de fer*). It was the special function of the C I T to deal with the regulations supplementary to the C I M and to keep them up to date. These regulations, together with those of the C I M itself, formed the '*Règlement uniforme pour le transport international des marchandises par chemins de fer*'.

International Conveyance of Passenger Traffic

Passenger traffic regulates itself more easily than goods traffic, accordingly the need for an international convention was felt to be less urgent. The difficulties of achieving uniformity were also greater owing to the diversity of national laws and regulations.

The question was first considered by the Berne Conference in 1905. A draft, prepared by the Central Office, was circulated in 1909, considered and amended at an international conference at Berne in 1911, but the war of 1914-18 broke out before it received the formal approval of a diplomatic conference. This approval was in fact only given in 1924 (see p. 29).

Prior to this date there was no general international code for passenger traffic such as is represented for merchandise traffic by the C I M. There were nevertheless numerous individual agreements, often of a detailed and complicated character, and a large

measure of co-operation between individual Administrations Agreement on time tables was a matter of outstanding importance, and this had been initiated administrationally at an early date

INTER ADMINISTRATIONAL ORGANIZATIONS

Verein Deutscher Eisenbahn Verwaltungen (V D E V)

This organization centred in Berlin It was inaugurated, as has been seen, in 1846 as the Verein Preussischer Eisenbahn Verwaltungen, but changed its name in 1847 to Verein Deutscher Eisenbahn-Verwaltungen, its object was to create uniformity in the regulations for the carriage and exchange of traffic between the Prussian State Railways in the first instance, and later between the Prussian State Railways and the neighbouring German Administrations It was subsequently extended to include all German speaking States, and later dealt with transport relations, in certain of their aspects, between Austria Hungary, Germany, Luxemburg, the Netherlands and Roumania

The V D E V was a regional organization of railway Administrations It dealt with both technical and transport questions (goods and passenger) When the Berne Convention (C I M) came into force on 1 January 1893, the Verein accepted the terms of the C I M and confined its activities, on this side, to the provisions supplementary thereto It continued to deal with all questions affecting international passenger and baggage traffic, and with technical questions

In 1914 the Verein covered 113,000 kilometres of line Its managing Administration (since 1884) was the Eisenbahn Direktion, Berlin Through its standing committees, as well as through the preponderant importance of its managing Administration, it exercised a more continuous and more effective control over the activities of its member Administrations than was possible under the more generalized regime which centred upon Berne

Exchange Unions

The V D E V was only one of many regional organizations set up for joint purposes between the railway Administrations of single States or of States having a community of interests, language, etc There were exchange unions, in particular, set up as between individual Administrations, whose particular function it was to regulate the use of freight rolling stock in international traffic, and to liquidate the various financial settlements involved thereby The most notable of these was the International Exchange Union, with its head office at Magdeburg, which was responsible for enforcing

the 'Regulations for the Use of Rolling Stock' between its member Administrations. This Union covered the greater part of the Austro-Hungarian, Belgian, Dutch, French, German, Luxemburg, Roumanian and Swiss Railways. There were other Unions whose names sufficiently indicate their spheres of activity, such were the Austro-Oriental Union (with offices at Budapest), and the Union between Railways of Central Europe and Italy (with offices at Strasburg and Magdeburg).

The question of the exchange of passenger vehicles in international traffic was also one which called for an early solution. The initiative came from the Prussian and Bavarian Railways, who invited their neighbour Administrations to a conference in 1889. As a result of this action a Conference, later known as the *Union Internationale des Voitures et Fourgons*, was founded in 1889 to regulate the international use of carriages and vans. Meetings were held in conjunction with the European Time Table Conference.

European Time Table Conference

Another urgent need for the development of international passenger travel was the establishment of an agreed time-table for passenger services. The first time table conference took place at Munich in 1860. The Bavarian Railways called the meeting, in which the railways of Bavaria, Baden, Wurtemberg, Austria and France took part. From 1871 onwards these conferences were extended under the auspices of the V D E V and fixed to take place twice a year—for winter and summer time tables. In 1891 they took the title of the European Time Table Conference.

At that time it had not been found necessary to establish a Goods Train Time Table Conference, and in fact no such conference was established before the war of 1914-18.

Special Agreements

Alongside the exchange unions, there were a multitude of special agreements with regard to through freight services, especially for perishable merchandise by passenger or goods train. Through services by rail were also linked up by agreements with inland and ocean water services, in a way which was of great benefit for the development of the European export trade to Asia Minor, Africa and South America.

The question of frontier facilities and accommodation was also the subject of many agreements, inevitably of a detailed and complicated character, in some cases large international stations were erected, providing not only for the proper discharge of customs

requirements, but also for the whole business of the exchange of international freight, baggage and passenger traffic. The importance and complexity of those arrangements became only too evident when the question of new frontier stations arose after the war of 1914-18.

SUMMARY

Generally speaking, the picture of European rail transport before the war of 1914-18 is one of close and growing co-operation between the various Administrations, based on a general sense of stability, political and financial, and a far sighted desire to co-operate in the development of international trade and travel.

On the State level, the regulations of the *Unité Technique* and the C I M had succeeded in establishing a general international uniformity in a limited field, but with notable omissions. The question of passenger transport still remained to be harmonized on the same lines, and a fully integrated organism had still to be established for the continuous development of co-operation in technical, operating, commercial, statistical and accountancy questions in step with the development of international trading requirements.

On the level of railway Administrations, a great deal had been accomplished by arrangement between individual Administrations or groups of Administrations, but the V D E V remained by far the most important combination, covering the whole field of international railway conditions within its geographical limits. Whilst accepting the over all regulations of the *Unité Technique* and the C I M, it exercised through its standing committees, and through the comprehensiveness of its organization generally, a detailed and effective influence on the international transport arrangements of its member Administrations. It remained, however, a regional organization, as it had been from its inception.

II EUROPE ORGANIZATION AFTER THE FIRST WORLD WAR

INTRODUCTORY

THE post war position presented the railways of Europe with a more difficult setting. It was not merely that they required rehabilitation, repair and re-equipment, or that the new political boundaries paid little regard to the lines of the railway network. The strained and stormy political atmosphere, and the growing feeling of instability made international negotiation, even on technical matters, much more delicate, and at the same time the railways found themselves used to an increasing extent as instruments of State policy, whether for the development of national ports, for the shipment of international traffic or more generally for strengthening the hold of the parent State in particular international fields of production or consumption.

Nevertheless, notable progress was made, and in some ways the railways came closer together than ever before. One factor in this development, at any rate after 1930, was the growing pressure of road competition. It may be said that the railways closed their ranks in the presence of a common enemy, better services were developed both for passengers and goods and new international organizations were set up. Long stretches of line were electrified and improved rolling stock was introduced. The mileage of many national railway systems continued to expand, though there is undoubtedly much room still left for further expansion in Russia, in South Eastern Europe and in Asia Minor.

It may be said, generally, that as a railway unit, Europe was functioning far better than as a political or an economic unit.

The pre war international organizations, which during the war had been in a state of suspended animation, slowly came to life once more, and new organizations were established partly with the aim of reviving international transport, partly also in the hope of creating a better co-ordinated and more effective instrument for the future development of international transport relations. Those hopes were not destined to be realized. In fact, the old organizations continued their independent existence and expanded their activities alongside the new bodies, while the new bodies complicated the old plan instead of simplifying it.

It will be necessary to trace the history of the new organizations, and to follow up the post war development of the older ones, if we desire to have a comprehensive picture of the machinery in existence

for the regulation of international rail transport in Europe in the years immediately preceding the outbreak of the present war

It may be well to begin with a list of the organizations to which reference will be made in the pages that follow

PRINCIPAL INTERNATIONAL ORGANIZATIONS CONCERNED WITH EUROPEAN RAIL TRANSPORT

Organizations exclusively concerned with railway transport

Inter governmental

League of Nations Transit Organization

Advisory and Technical Committee

Sub-Committee on Rail Transport

International Conference for promoting Technical Uniformity on Railways (Unité Technique)

Berne Union

Central Office for International Railway Transport

(Convention Internationale—Marchandises)

(Convention Internationale—Voyageurs)

Inter administrative

(a) *General*

Union International des Chemins de fer (U I C)

Bureau Central de Compensation (B C C)

Comite International des Transports par Chemin de fer (C I T)

Union Internationale des Wagons

(Regolamento Internazionale Veicoli—R I V)

Union Internationale des Voitures et Fourgons

(Regolamento Internazionale Carozze—R I C)

Union Internationale pour l'Emission de Billets a Coupons Combines (U I B C.)

European Time Table Conference

European Goods Train Time-Table Conference

(b) *Regional*

U I C—Eastern European Group (G R E M)

Verein Deutscher (later Mitteleuropaischer) Eisenbahn Verwaltungen (V D E V V M E V)

Association of Northern Railway Officials

Inter governmental and Inter administrative

International Railway Congress Association

Organizations partly concerned with railway transport

International Container Bureau (B I C)

International Electrotechnical Commission (C E I)

Central Council for International Touring
International Chamber of Commerce (I C C)

Organizations co-operating with railway organizations

International Telecommunication Union
International Air Traffic Association (I A T A)

LEAGUE OF NATIONS TRANSIT ORGANIZATION

The detailed history of the development of international transport organization as a result of the peace of 1919 will be given in the final volume in this series. It is only necessary here to trace that history in outline, as it affects railway transport in particular.

The Covenant of the League of Nations forms part of the Treaty of Versailles and of the treaties signed by Germany's ex allies after the first world war. Article 24 of the Covenant places under the League 'all international bureaux already established by general treaties, if the parties to such treaties consent', and 'all commissions for the regulation of matters of international interest hereafter constituted'.

A Commission of Enquiry on Freedom of Communications and Transit was formed in 1919, and in 1920 the Council of the League invited the Commission to submit proposals for a permanent organization, under the League of Nations to deal with matters of communication and transit.

The Council of the League, meeting at Rome in May 1920, authorized the convocation of a Conference on Communications and Transit in 1921 at Barcelona. At this Conference a scheme for a permanent Communications and Transit Organization was approved. That organization appointed an Advisory and Technical Committee, and that Committee in turn appointed a Sub Committee (later Permanent Committee) for Transport by Rail.

The League itself was world wide, but the influence of the Sub-Committee on Rail Transport has been practically confined to Europe. As a body consisting of Government representatives it stands, by its nature, on the same footing as the Berne Union, indeed, it would seem appropriate that the Geneva and the Berne organizations should have placed themselves in some organic relationship with one another.

This, however, did not take place. Article 24 of the Covenant gave no compulsory powers over 'international bureaux already established', and the compulsory powers expressly given in the case of 'international bureaux and all commissions hereafter constituted' were disregarded when, as related in a subsequent paragraph, the Economic Conference at Genoa in 1922 set up the International

Railway Union. In these conditions the League of Nations Transit Organization assumed the position of an advisory or consultative body only. It did much useful work in special questions such as the negotiability of railway transport documents, the questions of frontier sections of line and frontier stations, but the development of the C I M and the similar Convention relating to passenger train traffic remained, on the governmental level, exclusively in the hands of the Berne Union.

UNION INTERNATIONALE DES CHEMINS DE FER

On the administrative level, the principal post-war development was the establishment of the International Railway Union (*Union Internationale des Chemins de fer—U I C*)

The International Economic Conference held at Genoa in 1922 felt the need of setting up an international body which should represent the railway Administrations of Europe, as such. A body of *this kind might have been placed under the aegis of the League of Nations Transit Organization*. This, however, was not done. The Conference recommended that as a first step the French Railway Administrations should summon a conference of technical representatives of all European railway Administrations with the object of restoring international traffic and creating a permanent conference of railway Administrations to deal with questions of construction, equipment and operation.

As a result of this recommendation the International Railway Union was formed on 1 December 1922. Its purpose is declared to be to unify and improve conditions relating to the construction, equipment and operation (*établissement et exploitation*) of railways engaged in international traffic.

Membership is open to European railway Administrations operating at least 1,000 kilometres of standard or broad gauge line, and to other Administrations in adjoining territories which participate in through traffic. Other railways and companies directly interested in international traffic are admitted as associates. Practically all European railways, including the Russian, are members, as are also railways in French North Africa, China and Japan. Among the associates is the Wagon Lits Company.

The organization of the Union consists of

- (a) a general assembly which meets every 3 years,
- (b) a managing committee of 19 members,
- (c) five permanent committees, as follows
 - (i) Passenger Traffic,
 - (ii) Goods Traffic,

- (iii) Accounts, Exchange and Clearing,
- (iv) Rolling Stock Exchange,
- (v) Technical (this is again split up into sections)

It may be noted that special Sub Committees (UIC-CCIF, UIC-CCIT) have been set up to deal with matters of concern to the International Telecommunication Union.¹

In the assembly, members have voting rights in proportion to their mileage. Binding decisions can only be taken by a four fifths majority of the managing committee or of the general assembly, provided they are not opposed by one-tenth of the total votes of all members to be bound by the decision. Each of the Union's decisions indicates whether it is obligatory or recommendatory.

An important organ of the UIC is the Bureau Central de Compensation (BCC) with its office at Brussels, whose function it is to clear debts and other payments between members (see p. 35). The members of the UIC contribute to its finances in proportion to their voting power.

Regional groups may be formed within the framework of the Union, but only one such group had been formed before the outbreak of war. This was the Eastern European Group (G.R.E.M.), consisting of the State Railway Administrations of Bulgaria, Czechoslovakia, Poland, Roumania and Yugoslavia.

Apart from the Committees of the League itself, the UIC was the only international rail transport organization of a general character to be created as a consequence of the last war. An endeavour was made to associate it with the various bodies already dealing with the technical and commercial aspects of railway transport, as an integrated organization. It was agreed that the UIC, as an inter-administrational body, could only make suggestions to the inter-governmental bodies, such as the League Committees, or the *Unité Technique*, or the *Berne Union*, on the other hand, it was hoped that the existing inter-administrational bodies might ultimately be combined under the UIC. The matter was considered at some length in 1923, but it was ultimately decided that nothing more than the minimum of co-operation could be established. There was to be interchange of information, and questions of general interest might be referred to the UIC (October 1923). Later (1923-7) an endeavour was made to secure closer co-ordination with the CIT, but this also led to nothing. The CIT was invited to sit in an advisory capacity at the meetings of the UIC, and the CIT reciprocated the invitation.

The attempt to establish a comprehensive and co-ordinated inter

¹ See Mance and Wheeler *International Telecommunications* Oxford University Press 1943 p. 2

national organization, on the administrative level, failed, and was not renewed. Whether this result should be accepted as final is a matter for further consideration (see p. 129). At present it is enough to note that there is no comprehensive European organization charged with the responsibility of co-ordinating the various sectional and departmental organizations, and of presenting their recommendations, as the general recommendations of the railway Administrations, to a council of Government representatives, for legislative action.

Nevertheless, the U I C has done useful work in matters relating to technical standardization, where its Technical Committee has taken full responsibility for modernizing the regulations of the *Unite Technique* (p. 13), in the creation of an international Clearing Office (B C C), in drawing up model international passenger and goods tariffs, and in the issue of model regulations on a great variety of subjects. It also issues a very useful monthly journal, the *Bulletin de l'Union Internationale des Chemins de fer*, and an annual volume of international railway statistics.

VEREIN DEUTSCHER EISENBAHN VERWALTUNGEN

later VEREIN MITTELEUROPAISCHER EISENBAHN VERWALTUNGEN

Looking backward, one may feel now that after the first world war an opportunity was missed in that no adequate steps were taken to link the U I C, as an administrative body of general European character, into organic connection with the Berne Union, a governmental body of similar European character. It was perhaps even more unfortunate that the opportunity was missed of establishing the U I C as the over all administrative authority for all Europe, and of bringing all European regional organizations into subordination to it. The Verein Deutscher Eisenbahn Verwaltungen was such a regional organization, and it was a member of the U I C, but it continued, in fact, to function as a separate and independent authority. By following a persistent policy of expansion it came to exercise a dominating influence over shadowing the U I C throughout wide areas of the continent of Europe. Such a position was constitutionally unsound, and exercised an unhealthy influence. It will be convenient to deal with the V D E V at this stage of our account of the developments which followed the close of the first world war.

In 1914 the Verein covered 113,000 kilometres of railway (see p. 5). It included the German, the Austro-Hungarian, the Dutch, the Luxemburg, and the Roumanian Railways. At the end of the first world war the kilometrage was reduced by about 20 per cent, the

Netherlands Railways and the Luxemburg Prince Henri Railway remained as the only non German members. Nevertheless, the Verein quickly resumed its essential activities. Its headquarters were still fixed at Berlin, and the Reichsbahn Direktion, Berlin, has been continuously re-elected as the managing Administration.

In 1929 the Swedish, Norwegian and Danish State Railways, and the Swiss Federal Railways, joined the Verein as associates without voting rights. In 1932 the title of the Verein was changed to Verein Mitteleuropäischer Eisenbahn Verwaltungen (V.M.E.V.) as a better indication of its field of activity and its international significance.

The activities of the Verein cover almost every department of railway work. A general meeting is held every three years. Members have one vote for every 1,000 kilometres of line, and Administrations operating more than 2,000 kilometres of line have ten extra votes. Smaller companies are grouped and have one vote per 1,000 kilometres. Majority decisions are, with few exceptions, binding on all the members, but not upon associates.

The work of the Verein is largely conducted through six standing committees

- (i) Administrative,
- (ii) Passenger Traffic,
- (iii) Goods Traffic,
- (iv) Wagon Exchange,
- (v) Technical (this is again split into six sub committees),
- (vi) Prices and Costs

It publishes two useful periodicals, the *Zeitung des Vereins Mitteleuropäischer Eisenbahn Verwaltungen* (weekly) and the *Organ für die Fortschritte des Eisenbahnwesens* (twice monthly).

The Verein has co-operated with other European administrative organizations, indeed, in many cases, these took the regulations of the Verein as the basis for their own proposals. On the other hand, it has accepted the regulations laid down by the governmental organizations which framed the Berne Conventions, in 1928 the Verein modified its own regulations so as to conform to the regulations of the Berne Conventions on goods and passenger traffic (CIM and CIV, see pp. 25-29), and these were ratified by the German Government.

The Reichsbahn in its position as the managing Administration of the Verein, and owing to its preponderant size, has exercised very great influence, not always to the benefit of the smaller members. Moreover, the Verein has been pressed into the service of the German political system, and has itself contributed to the power of that system. It is with this in mind that we must recognize its successes.

Over its own area it effectively discharges the functions shared by half a dozen diverse unions over Europe as a whole

UNITÉ TECHNIQUE

The institution of the League Organization for Communications and Transit remained, as we have seen, without effect upon the activities of the Unite Technique and the Berne Union (pp 10-13). Both these bodies resumed their work where it had been left unfinished before the first world war, though it may be noted that the Unite Technique has availed itself to a very considerable extent of the assistance of the U I C, as an administrative body, acting through its Technical Committee, and in this field the U I C has done perhaps its most valuable work

The work of technical standardization, appropriate to the Unite Technique, falls naturally under several heads

General

The Unité Technique was fully conscious of the rapid technical progress which was taking place. Standards of all kinds needed revision, and new standards needed to be created. The old machinery working through governmental representation and diplomatic conferences was found too rigid and cumbrous. Its results were embodied in State documents, and the procedure for their modification proved altogether too slow to meet the urgent needs of changing circumstances.

Greater elasticity was required, and the work of standardization fell more and more into the hands of administrative bodies who drew up codes of supplementary regulations, accepted between Administrations, but having no governmental sanction behind them. In this field the U I C, through its Technical Committee, performed useful work and made many recommendations on the physical standardization of rolling stock, signalling, bridges, etc.

A general revision of the code of standards laid down by the Unite Technique was taken in hand by the U I C in 1924. The final drafting was completed in 1935, and the new code came into force in 1938. It was accepted by the Governments of eighteen standard gauge countries, *constituting a solid block from the Pyrenees to the western frontiers of Russia and of the Baltic States*. The code is divided into six parts: (a) standard gauge, (b) conditions governing acceptance or refusal of wagons, (c) construction of vehicles, (d) condition of vehicles, (e) loading of wagons, (f) transport of goods subject to customs, etc.

Continuous Brakes

The need for the standardization of the continuous brake is self evident. The subject had been remitted to the Unite Technique in 1909. Experiments were put in hand, but the work was interrupted by the first world war.

After the war, the study of the subject was taken up once more. The question was not forgotten in the Treaty of Versailles. Under Article 370 Germany was put under obligation to fit her wagons with continuous brakes that would work in with any form of continuous brake that might be adopted by the Allied Powers parties to the Unite Technique whether on the trains of those Powers or on German trains. In 1923 the representatives of Belgium, Czechoslovakia, France, Great Britain, Greece, Italy, Roumania, Yugoslavia and (later) Poland agreed upon the adoption of the Westinghouse brake, or any other compressed air brake that could be coupled to and with it. In the meantime Germany had adopted the Kunze-Knorr brake, in 1926 this brake, which can be used in connection with the Westinghouse brake, was accepted by the Technical Committee of the UIC as admissible for international traffic—and as implementing the obligations imposed upon Germany in the Treaty of Versailles.

Other types of brake have since been approved by the UIC, which drew up (in 1936) a set of 29 conditions to be satisfied by continuous brakes for passenger trains in international traffic.

Automatic Couplings

The question of an agreement for the introduction of automatic couplings was brought up at the International Labour Conference in 1923, and taken up with the UIC in 1924.

The UIC undertook statistical and technical studies on the subject, they also laid down guiding principles for the examination of experimental types of coupler. Progress was slow, and in 1931 the ILO proposed the raising of an international fund of six million Swiss francs in order to finance trials of automatic couplings. The Governments consulted declined to contribute, and the UIC, although they continued to handle the question up to the outbreak of war, were unfavourable to the change on the grounds that the very low frequency of accidents did not justify the enormous expense involved, and further that the American semi automatic system was not markedly safer than the European system. It may be noted that since the outbreak of war automatic couplings are in course of being introduced on the railways of the U.S.S.R. and on a few special types of trains elsewhere.

Electric Traction

In many countries railway electrification policy has been shaped by the general electricity policy of the country. No attempt has therefore been made to adopt international standards in electric traction.

At the end of 1938 main line electrification in Europe was operated in part on the single phase alternating current system, in part on high tension direct current, and to a small extent on three phase current. (For further details, see pp 53 and 135)

Collaboration has been established between the U I C, the International Electrotechnical Commission (C E I) and the International Union of Tramways, Local Railways and Public Motor Transport, and in 1929 these bodies set up a joint committee (*Comité mixte du matériel de traction électrique*) with a secretariat provided by the C. E. I. The title of the joint committee sufficiently indicates its scope. Various matters have been discussed, but no notable progress has been recorded.

Wagons

The U I C has framed technical regulations for refrigerator and other special wagons, it has also laid down the conditions to be satisfied by existing and new wagons running at special speeds up to 100 kilometres an hour, and has elaborated a universal clearance gauge for wagons.

INTERNATIONAL EXCHANGE OF ROLLING STOCK

Whilst the *Unite Technique* prescribed the conditions concerning the construction and maintenance of vehicles intended for international exchange, there still remained a whole series of technical or commercial questions relating to the use of the vehicle when it had left the parent Administration, and of the payments to be made for that use.

The various Administrations which participate in the carriage of a passenger or a commodity divide between themselves the charge made to the public for that carriage. This division, which may be on a mileage or some other basis, takes no special account of the ownership of the vehicle in which the carriage is effected. That is the subject of a separate transaction under which the Administration owning the vehicle receives payment from the other participating Administrations. There is an evident advantage in regulating such transactions as far as possible, on standard lines.

The problem is more intricate in the case of goods vehicles than passenger vehicles.

Goods Vehicles

The first attempt to solve it naturally took place between neighbouring Administrations, and these, as we have seen (p 5), generally took the shape of exchange unions. After the war of 1914-18 it was felt that some more comprehensive system was needed. The question was taken up in 1920 at the instance of the Italian State Railways, and a Conference was held at Stresa (1921) in which fifteen States took part.

At this Conference the Union Internationale des Wagons was formed. The new International Wagon Union drew up the 'Reglement pour l'emploi réciproque des wagons en trafic international'. This document is known by its Italian name, Regolamento Internazionale Veicoli, or for short R I V, and the name of the document has come to be adopted as the name of the organization which applies it and keeps it up to date.

The members of the organization are those Administrations which are subject to the Unité Technique, and it may be regarded in its own sphere as the administrative counterpart of the Unité. It is governed by a general assembly which sits normally every five years, and by a management committee. The general assembly elects the managing Administration from the members of the management committee. So far, the choice has always fallen on the Swiss Federal Railways.

At the assembly each member Administration has one vote plus one additional vote for every 100 kilometres of line operated. Decisions are taken on a majority of votes, except in the case of amendments to the Statutes and Regulations, when a two thirds majority is necessary. All decisions taken are obligatory.

The management committee consists of six permanent members (Belgium, France, Germany, Italy, Poland and Switzerland) and three non permanent members appointed every five years.

The R I V has established a clearing office, and the ultimate settlement of balances is effected through the B C C (p 12). The services of the Hauptwagenamt, Berlin, are also available for clearing and settlement.

The Regolamento covers the following points:

A fully loaded wagon must be allowed to continue its journey over the frontier to destination.

The receiving Administration pays rent for the wagon to the owning Administration. This is a uniform rent calculated *per diem*.

To prevent delay in the return of the wagon, the rent is on a sliding scale, reaching its maximum after fifteen days.

To save empty haulage, wagons after unloading may under pre-

scribed conditions be diverted to pick up a return load either for an internal or for an international journey

Repairs and technical treatment of wagons are subject to the rules of the *Unite Technique*

Fines may be imposed for breach of rules

The last revision of the R I V came into force on 1 January 1935. There have since been certain amendments made in 1936 and 1938

The use of private wagons in international traffic was regulated partly by the R I V (1921), partly by supplementary rules, revised by the U I C in 1923. These were eventually incorporated in the C I M (see p. 27)

Goods vehicles are of many different types, and the type limits the use to which they can be put. It is therefore important to indicate the type of wagon by certain 'vehicle type symbols' of a standard character which can be inscribed on the vehicle. The U I C took this matter in hand (through their Technical and Rolling-Stock Commissions) and in 1925 drew up a list of eighteen indications to be shown on all goods wagons used in international traffic, these cover, among other things, ownership, serial number, carrying capacity, tare, wheel base and date of last overhaul

Change of gauge is an important matter in Eastern Europe. It is sometimes effected by changing the axles of the wagons. Rules for the operation of the special equipment required have been laid down by two Associations, both of which were administered by the *Hauptwagenamt*, Berlin. They covered the railways of Germany, Poland, the U S S R, Lithuania, Latvia and Estonia. In 1931 the U I C adopted detailed regulations on the same subject for general application

Passenger Vehicles

The exchange of passenger vehicles is governed by the *Union Internationale des Voitures et Fourgons*. This organization may be said to have been founded in 1889 (see p. 6), though the name by which it is now known was adopted at a later date. The members are the continental European standard-gauge main line systems, but no railways in Spain, Portugal, Estonia, Finland or the U S S R are associated, the Swiss Federal Railways are the managing Administration, they provide the Secretariat and Clearing House.

In 1923 the Union drew up a 'Convention pour l'emploi réciproque des voitures et des fourgons en service international'. This is known as the R I C from its Italian title, *Regolamento Internazionale Carozze*, and these initials, as in the case of the R I V, are commonly used to denote the Union itself

Apart from the formulation of the Convention, the R I C estab

lished periodical meetings, which came to be known as the European Through Carriage Conference, and later as the European Conference for Through Services. These meetings are held in conjunction with the European Time-Table Conferences described later (p. 20). Plenary sessions are held annually. Group meetings are also held, and the groups themselves are split up into sections corresponding to the routes concerned. All the movements thus agreed compose the European Table of Through Carriages. Each Administration has one vote at plenary sessions, together with supplementary votes based on a complicated formula having reference to the number of axles, vehicles, etc., engaged in the service. Decisions are by majority, with the same qualifications as in the case of the R I V, and are obligatory.

Payments between the various Administrations are based on a special unit, the axle kilometre, and every endeavour is made to arrange the services so that the balances cancel out. If there are any cash balances they are transferred by the Swiss Federal Railways to the R I V account and settled through the B C C.

The R I C deals with the interchange of passenger vehicles generally, with accounts and clearing, and also with technical rules governing (a) operation, and (b) construction and maintenance. The rules governing operation (upkeep, cleaning, water supply, etc.) call for no special comment, those governing construction and maintenance are based on the code of the *Unité Technique* (see p. 17), but supplement it by additional rules dealing with continuous brakes, heating, lighting, etc., which have no statutory force, but constitute agreements between railway Administrations.

INTERNATIONAL TIME TABLES

In this field the need of international agreement necessarily extends to the smallest details of the international services, nor is the need local to two or more Administrations. A changed timing may affect other services over a very wide area.

Passenger Time Tables

The formation of the European Time Table Conference dates back to 1891 and has already been described (p. 6). It existed in fact before that date though under another name. The first regular Conference was held in 1871.

In 1920 formal standing orders were adopted. Membership includes Governments, the League of Nations, railway and shipping undertakings, sleeping and dining car companies and air transport

companies The Swiss Federal Railways are the managing Administration

There is a vast network of international services, which calls for no special comment Some reference should, however, be made to the question of 'summer time', and the complications to which it has led

Although the UIC recommended international agreement in 1923, no steps were actually taken to synchronize the dates for beginning and ending summer time until 1930 Great Britain had adopted a fixed date, but Belgium, France, Luxemburg and the Netherlands each went their own way, and often fixed the dates at very short notice The confusion in continental and international services was a cause of serious inconvenience The International Chamber of Commerce took an active share in urging uniformity, but the difficulty was never wholly overcome In 1930 a variable arrangement, based on the date of Easter, was adopted, but this was modified in 1938, when fixed dates for the commencement of summer time were for the first time agreed between France and Great Britain, leaving Belgium, Luxemburg and the Netherlands to go their own way It may be hoped that some more stable and general agreement will be reached in the future

Goods Time-Tables

The institution of Goods Time Table Conferences is a new feature, there were no such conferences before the war of 1914-18, and few international through goods trains The development of such trains has been one of the most marked and civilizing advances in the railway service of Europe, it opened out new markets, particularly for perishable traffics, and held out hopes of rendering an even more beneficent service in the future

The Supreme Economic Council in 1920 set up the Comité Central de Circulation du Matériel Roulant dans l'Europe Centrale (CCMR), with its office at Vienna, to control the movement across frontiers of Austro Hungarian rolling stock the future ownership of which had not yet been determined, and the establishment of through goods services in South Eastern Europe This body, however, lost much of its utility when the transport position in South Eastern Europe became more stabilized and the ownership of the rolling stock had been decided (see pp 78-82)

In the meantime, at the instance of the Czechoslovak Administration, international conferences for goods train time-tables were organized These conferences began on a small scale, including only Austria, Czechoslovakia, Hungary, Italy and Yugoslavia But an increasing number of Administrations associated themselves with

the movement, and in 1928 the Conference took more definite shape. In that year it issued a *Livret International des Trains de Marchandises*. The rules of the Goods Train Time Table Conference were published and brought into force in the following year. A great impetus was thereby given to the development of through services, and by 1930 Italy, for example, had established twelve through trains for international traffic with Germany, Austria, Switzerland and France. 'Foodstuff export expresses' were formed, with covered vans and continuous heating and braking together with trains of refrigerated vehicles for the conveyance of fruit, vegetables, etc., from Italy to distant markets. Even London and other destinations in Great Britain were, by the medium of train ferries, placed in a position to share in the traffic. A large refrigerated warehouse was established at Verona.

The Conferences were held annually, and the Czechoslovak Administration was charged with the preparations for them.

III EUROPE BERNE UNION

INTRODUCTORY

QUESTIONS affecting the exchange of wagons and coaching-stock, through services and time tables are technical in character and as matters of administration group themselves naturally under the general competence of the *Unité Technique* as a presiding governmental organization

As we have seen, however, the *Unité Technique* was only one phase of international governmental activity, in particular it did not touch the conditions under which merchandize and passengers are carried, the contract of carriage or the mutual obligations as between the railways themselves, or between the railways and the public they served. These questions form a separate field of study, quite apart from questions of rolling stock, track or equipment

This field is covered by the Berne Conventions, drawn up and sanctioned by the Berne Union. They are known as the *CIM* for merchandize traffic, and the *CIV* for passenger traffic. Their history prior to the first world war has been outlined on pages 3-4. It is now necessary to follow their progress between the two wars and their final state of development at the outbreak of the second world war

CENTRAL OFFICE

(Office Central des Transports Internationaux
par Chemins de fer)

A Central Office for the transport of goods by rail had been set up under the Berne Convention (*CIM*) in 1893, its duties were later extended to cover passenger traffic under the Convention (*CIV*) of 1924

The Central Office has the following duties

- (1) Correspondence with the contracting States,
- (2) Collection and publication of information,
- (3) Rendering awards in disputes between railways, at the request of the parties,
- (4) Facilitating financial relations between the various railways and
- (5) Examination of requests for the amendment of the Conventions, and proposals for convening revision conferences

The expenses of the Central Office are borne by the contracting States in proportion to the mileage of railway and other undertakings covered by the Convention—water transport undertakings at half rate. The full rate is 1.40 Swiss francs per kilometre

The Central Office publishes a monthly Bulletin containing information necessary for the application of the Convention

It assists, on request, in the settlement of overdue accounts, but does not decide such issues. If it considers that the debtor Administration has adequate grounds for refusal to pay the amount claimed, it advises the parties to have recourse to the competent court. In the last resort the debtor Administration may be removed from the list of participants, or the State to which it belongs must guarantee its solvency.

The position of the Central Office under the C I V is the same as under the C I M, except that the annual contribution may not exceed 0.80 Swiss franc per kilometre.

COMITÉ INTERNATIONAL DES TRANSPORTS PAR CHEMINS DE FER

In 1902 (see p. 4) a Union of Railway Administrations was established, which in turn set up the Comité International des Transports par Chemins de fer (known as the C. I. T.) to frame regulations supplementary to those contained in the Convention (C. I. M.) and to put forward any proposals that might be necessary for keeping the Convention itself up to date. This Committee continued its activities after the war of 1914-18. The supplementary provisions which it drew up were known as Dispositions Complémentaires (D. C.). These provisions have themselves in course of time been supplemented and further defined by the Dispositions Complémentaires Uniformes (D. C. U.) and the Dispositions Complémentaires Spéciales (D. C. S.). When the Convention for the transport of passengers and luggage was concluded in 1924 (see p. 29), the functions of the Union and of the C. I. T. were correspondingly extended to cover the whole field of the development of international transport law based on the Berne Conventions, and the uniform regulation of other questions relating to international transport.

Membership of the C. I. T. is limited to those Administrations which accept both the C. I. M. and the C. I. V. and the supplementary provisions (D. C.) connected with them as approved by the C. I. T. Those which accept one of the Conventions only may be members for the purpose of that Convention.

The Swiss Federal Railways are the managing Administration, and the Central Office is at Berne. The C. I. T. and the U. I. C., which from this point of view may be regarded as parallel organizations, are represented at each other's meetings in an advisory capacity for the discussion of matters of common interest.

BERNE CONVENTION FOR THE TRANSPORT OF MERCHANDISE

General Provisions

The Berne Convention of 1890 (CIM) was supplemented by additional Conventions in 1898 and 1906. A fourth revision was undertaken in 1923, resulting in the Convention of 1924. The Convention was last revised in November 1933.

This revision came into full force on 1 October 1938. By April 1944 it had been ratified by all the countries of continental Europe except the U.S.S.R. The U.S.S.R. has neither signed nor ratified the revised Convention.

The CIM, as last revised, consists of sixty-five Articles, and eight Annexes.

It deals mainly with the contract of transport, and the rights and liabilities of the carrying companies *vis à vis* one another and the public. The Annexes deal with supplementary matters—forms to be used, the special regulations about private wagons, about the carriage of explosives, etc., and the carriage of express parcels, the establishment of the Central Office (p. 23) and of a Committee of Experts.

For full details a reference to the Convention itself is indispensable.¹ The following is, however, a summary of its provisions in broad outline.

The Convention applies to all consignments of goods despatched under a through consignment note (*lettre de voiture*) for transport over the territory of at least two of the contracting States (Art. 1).

Every railway governed by the Convention is required to undertake the transport of goods within the terms of the Convention provided the consignor complies with the provisions of the Convention (Art. 5).

A consignment note must be made out in the prescribed form for each consignment of goods (Art. 6). Annex II sets out the prescribed form.

Charges must be calculated according to tariffs legally in force and duly published. The tariffs shall be uniformly applied to all persons, and there shall be no private agreements granting reductions to particular consignors (Art. 9).

The railway which accepts goods for transport is responsible to the consignor for the proper transport of the consignment over the whole route up to delivery. This covers delay in delivery beyond the permitted period (Arts. 26 and 27).

In the absence of stipulations in the Convention the national laws and regulations concerning transport in each State are to apply.

¹ See L.N.T.S. vol. CXCH p. 389.

(Art 53), and the procedure to be followed is that of the competent court (Art 54)

The Swiss Government are bound to call a Conference of the Contracting States five years after the entry into force of the modifications of the Convention agreed at the last Conference, or earlier at the request of one-third of the Contracting States (Art 60)

The obligations of each Contracting Party are renewed from three years to three years. A State may withdraw on one year's notice given on 31 December in each year (Art 62)

Special provisions in regard to prepayment of charges are made in order to meet the emergencies of currency fluctuation (Art 65)

Inter Railway Regulations

The Convention deals principally with relations between railways and the public. Only six of its articles (Arts 47-52) deal with the mutual relations between railway Administrations

Transport charges may be paid either on the despatch or on the delivery of the goods. The railway receiving the payment is responsible for paying their proper share to the other railways concerned (Art 47)

Payment on claims for damage, delay, etc., is to be borne by the railway or railways responsible. Where the responsibility cannot be assigned, all railways must share in the payment on a kilometrage basis (Art 48)

Annexes to the C I M

As already mentioned, the Convention includes eight Annexes, dealing with supplementary matters

Annex I consists of 'regulations concerning certain articles accepted for transport subject to certain conditions'. These are divided broadly into six classes—explosives, substances liable to spontaneous combustion, inflammable, poisonous and corrosive substances, and substances which are obnoxious or liable to cause infection. The conveyance of each of these classes of goods is subject to regulation of a more or less stringent character

The regulations are, as may be supposed, of a very intricate character, and when last revised in 1933, the code included 813 numbered paragraphs. A suggestion was under consideration for detaching the code altogether from the C I M so that it could be more easily amended

Apart from the general code in this Annex, various groups of countries have concluded special mutual agreements relative to one or more of the articles covered by the Annex

Annex II sets out the standard form of consignment note for general use (see p 25)

Annexes III and IV contain other forms of less immediate importance

Annex V contains regulations relative to the Central Office

Annex VI deals with the organization and procedure of a Committee of Experts whose duty it is to keep Annex I up to date. France, Germany and Italy are permanent members, but all other parties to the CIM may be represented. Decision is by a majority, but a decision is not accepted if two Governments object within two months.

Annexes VII and VIII contain regulations relative to privately owned wagons and to express parcels respectively. Both these subjects are dealt with below under separate headings.

Privately Owned Wagons

These consist of tank trucks, trucks fitted with heating or refrigerating apparatus, and trucks specially fitted for the transport of certain classes of goods. The conditions governing their admission to international traffic are laid down, as already indicated, in Annex VII of the CIM as revised in 1933. They are to be registered by a railway which is solely competent to decide whether a wagon is to be accepted for international service. They must only be used for the transport of the goods for which they are intended. The wagons, when empty, must be accompanied by an international consignment note.

The regulations in the Annex cover provisions for maintenance, and generally for the relations between the owner of the wagon, the consignor of the goods and the railway.

Express Parcels

Express Parcels are defined as 'goods conveyed by particularly rapid means of transport under an international tariff'. Generally speaking, this covers only such goods as may normally be loaded in the luggage van of a passenger train. There are certain special provisions about consignment notes, etc., otherwise the provisions of the CIM are applicable.

Express parcels traffic originated in Germany, the movement was looked upon as a means of competition with road transport. In 1929 Germany instituted tariff arrangements with Holland, and later with Belgium (1931), with France (1932) and with Great Britain (1934). Finland and the three Scandinavian countries have also entered into an agreement based on the Berne Convention.

Other Related Questions

A certain number of questions have arisen within the field covered by the CIM and have been the subject of international discussion. Some of these are noted below.

Newspapers The conveyance of newspapers was taken up at a Conference of Press Experts convened by the League of Nations in 1927. The recommendations made were followed up by the UIC, who recommended (1928) that international transport of newspapers should be governed by the CIM and not by the respective national laws and regulations, and that (where possible) through trains and 'trains de luxe' might be used for the purpose, but trains run by international sleeping car companies could only be used subject to their special contracts. The UIC also attempted to establish a unified tariff system but failed to do so.

In 1929 the Transit Committee of the League called a European Conference on the subject, and thus adopted a Final Act endorsing the conclusions of the UIC. In December 1929 the UIC adopted regulations by which the railway Administrations undertook to institute an accelerated transport for newspapers. The CIM was accepted as the legal basis, with special consideration for cases where the transport of newspapers was a postal monopoly.

Negotiable Transport Documents The introduction of a negotiable transport document was taken up by the League of Nations in 1929, at the instance of the International Chamber of Commerce. It was pointed out that this would enable goods to be sold in course of transport, the bearer of the document could raise money on the goods transported or offer the document as security for bills issued by him.

A negotiable transport document is not allowed under the CIM, and the UIC saw great difficulty in introducing such a document. The question was the subject of continued discussion, and came up again at the Rome Conference (1933) for the revision of the Berne Convention. No agreement was reached, but the revised CIM left it free to States to conclude special arrangements with one another.

Italy then took the lead and concluded a special agreement with other States associated with her. The participants (in addition to Italy) were Austria, Bulgaria, Czechoslovakia, Danzig, Estonia, Hungary, Latvia, Poland and Yugoslavia, Spain and Greece joined later. It applies only to certain categories of goods in full wagon-loads between specified stations.

Container Traffic This traffic first came under international regulation in 1931, when the UIC drew up a model tariff. It adopted

international regulations for exchange of containers as from 1 January 1933, and thereafter the exchange of container traffic became a regular feature of international transport as between the countries which accepted the model tariff. The UIC also took up the question of standardizing customs procedure.

In 1933 the International Container Bureau was established at Paris to frame rules for standardization, loading equipment, safety devices, customs formalities, etc. Its membership included the League of Nations Transit Committee, the International Chamber of Commerce, railways, forwarding agents and manufacturers, a number of experiments have been carried out by international competition, with a view to settling the best design of container, but a general Convention had not been framed when war broke out.

Miscellaneous Other questions affecting goods traffic dealt with by the UIC include

- (i) Joint working of railway and customs services at frontier stations,
- (ii) Labelling of fragile packages in international traffic,
- (iii) Tariff conditions for furniture vans in international traffic, and
- (iv) Method of packing certain goods requiring special precautions

BERNE CONVENTION FOR THE TRANSPORT OF PASSENGERS AND BAGGAGE

As has already been seen, the question of establishing an International Convention for the Transport of Passengers and Baggage to correspond with the International Convention for the Transport of Merchandise (CIM) had already received consideration before the first world war. Such a convention had in fact been prepared and circulated, and was finally revised by an International Conference at Berne in 1911. It still needed diplomatic approval. This was given at a diplomatic conference held in 1924.

General Provisions

The Convention was entitled *Convention Internationale concernant le Transport des Voyageurs et des Bagages par Chemin de fer*, or (for short) CIV. It was last revised in 1933 and the new text came into force in 1938.¹

It consists of sixty four provisions covering the transport contract, both for passengers and baggage (Arts 5-27), the liability of railways *vis à vis* passengers and one another (Arts 28-52) and a number of miscellaneous provisions.

Broadly speaking, the CIV was modelled on the CIM. Traffic

¹ L.N.T.S. vol CXCVI p 327

may not be refused if the passenger complies with the provisions of the Convention (Art 4). Tariffs must be uniformly applied, but reductions are allowed if duly published and open to all (Arts 23 and 24).

In the case of liability for accident, the C.I.V. differs notably from the C.I.M. Whilst in the case of baggage (Art 29) the railways accept collective responsibility for loss or damage (as with merchandise), they accept no such collective responsibility for accident, or loss due to delay, to passengers (Art 28). Liability for accidents to passengers, or for delays and loss of connection, falls on the railway where the incident occurred, and is subject to the laws and regulations of that country. In this particular, the C.I.V. differs also from the Brussels Maritime Conventions, and the Warsaw Convention on air carriers' liability.¹

The States covered by the C.I.V. are the same as for the C.I.M., and the rules for State membership, accession, resignation, etc., are the same.

Supplementary Provisions

As in the case of the C.I.M., the duty of framing conditions supplementary to the Convention (C.I.V.) devolved naturally upon the administrative body known as the C.I.T. (p 4), and that body did in fact draw up such conditions at Oslo in June 1924. The U.I.C., however, had already taken the matter in hand (May 1924) and had completed a draft on similar lines. The two bodies reached agreement in 1926, and thereafter the U.I.C. has carried the matter forward. Further additions to the model tariff conditions then adopted have been framed to cover group travel (1927), carriage of schoolchildren and students (1929), cheap return tickets in connection with exhibitions (1931), and finally international tourist trains run as part of a touring programme (1937). An attempt to frame a polyglot list of technical terms (1938) was cut short by the war.

Other Related Questions

Combined Coupon Tickets. The issue of combined coupon tickets had for many years before the first world war been a well known convenience of international travel, requiring mutual co-operation between the railways concerned. The pre war organization having disappeared, a new organization was speedily required. It is characteristic of the chaotic conditions ruling after the war that a new and independent organization was called into being for the purpose.

¹ See Mance and Wheeler *International Air Transport* Oxford University Press 1943 p 35 and *International Sea Transport* Oxford University Press 1945 p 30.

apparently without consideration of the possibilities of cognate organizations already in existence

The Union Internationale pour l'Emission de Billets à Coupons Combinés (U I B C) was formed in 1921 with the Belgian Railway Company as the managing Administration, and a President nominated by the French Railways. It came to include railways in all the western European countries (except Norway) and in Switzerland and Italy, Germany remained aloof, and with her all the countries of central and eastern Europe except Czechoslovakia and Roumania.

The situation was evidently anomalous, and in 1925 the U I C recommended that all members of the U I C should become members of the U I B C. Germany, however, refused and claimed that her own organization (the Mitteleuropäisches Reisebüro, M E R) gave all the facilities that were required. This was in fact true only of passenger traffic arising in Germany. traffic desiring to enter or cross Germany was subject to various disadvantages. It seems that the Germans resented the formation of the U I B C. They alleged that it took the place of the Vereinsreiseverkehr, an off shoot of the V D E V, which had efficiently performed the same function, and that Germany had been excluded from the U I B C. The Austrian and Hungarian Railways took the same line.

Insurance of Luggage This was considered by the U I C in 1923. Having reviewed actual practice, they recommended that insurance, when required, should be effected through a special company bound to the railways by contract.

GREAT BRITAIN AND THE BERNE CONVENTIONS

Great Britain has never been a party to the Berne Conventions. The reasons given for this abstention are mainly of a legal character. The Conventions regulate various matters without regard to British law, which would have to be amended in so far as the conditions of the Conventions are contrary thereto. The advantages to be gained were not held to be great enough to justify such action. On the other hand, there is no disposition to modify the Conventions to accord with English law. As has been already indicated (p 3), the acceptance of the Berne Conventions involves no other obligation than the application of the terms of the Conventions to through booked or through consigned international traffic.

It may be noted here that the introduction of train ferries between Great Britain and the Continent has led to a considerable development of international traffic passing, in through truck loads, to and from British stations. This has increased the desirability of through tariffs. Such tariffs have, in fact, been arranged (p 65), but against

great difficulties, since the conditions of each such tariff had to be negotiated between the Administrations concerned on the basis of a compromise framed to escape conflict with the laws or regulations of either country

Even so, the situation is far from satisfactory and seems to call for some agreed solution on simpler and more general lines. But the problem is beyond the powers of the Administrations concerned. Differences of law are involved, which require governmental action. It is understood that in fact a move is now being made to obtain legislation which will enable Great Britain to be a party to the Berne Conventions

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IV EUROPE MISCELLANEOUS

COMBINED TRANSPORT

BOTH the Berne Conventions of 1924 permit (Art 2) undertakings other than railways to participate in the regime of the Conventions, but these undertakings must conform to three conditions :

- (i) they must be regular automobile or navigation services ,
- (ii) they must be complementary to rail transport , and
- (iii) they must be guaranteed by a State, or by railway companies which are themselves subject to the Conventions

The Conventions of 1933 make no alteration in Article 2, but add a new provision, intended to meet the problem of air transport. This allows railways and other undertakings to lay down tariff conditions, and to use a transport document, constituting a legal régime other than that of the Berne Conventions.

In fact, the difficulties of applying the same conditions in respect of liability to rail, sea and air transport are very great, and have not been fully overcome. It may be recorded, however, that in 1930 the U I C and the I A T A agreed to apply, in effect, the conditions of the Warsaw (air) regime to air passengers requiring to travel by rail, on the guarantee by the I A T A of the settlement of all the railways' claims in respect of them, later, in 1932, the U I C and the I A T A succeeded in reaching a standard agreement on general carriage conditions for goods traffic in combined air rail services ¹.

Further, in May 1939, the Passenger Traffic Commission of the U I C., under strong pressure from the International Chamber of Commerce, recommended the adoption of a model international tariff and a model contract for the combined transport of passengers by rail and air, applicable to railways and air transport companies, members of the respective associations. The outbreak of war occurred before any further progress could be made.

UNIFICATION OF NATIONAL LAWS

The Berne Conventions form the basis of the law of international transport in the countries accepting them. They have sometimes been adopted also as the national law applying to internal transport. But this is by no means universal, and the variety of the national laws was felt as a severe handicap to the full development of trans-

¹ See Mance and Wheeler *International Air Transport* p 36

port Accordingly the whole subject has been under investigation by the U I C since 1931

Having regard to the weight of German influence on the structure of the two Berne Conventions, it is not surprising that German law was found to approach most nearly to international law, and that the countries whose legislation was based on German law formed the largest group of European countries The situations of the different countries were, however, so varied that the U I C has not been able to do more than issue a number of recommendations towards harmonizing national with international law for passengers and luggage (1936) and for goods (1938) So far as is known, no actual steps have been taken to put any of these recommendations into force

UNIFICATION OF STATISTICS

The League of Nations Transit Organization took this in hand for transport generally, leaving the U I C to deal with railway statistics

The U I C through their Accounts Committee made considerable progress in unifying European railway statistics By the end of 1929 they were able to provide for the compilation of fourteen statistical tables, covering

- (i) Length of line and rolling stock ,
- (ii) Operation—train miles and traffic ,
- (iii) Financial results ,
- (iv) Miscellaneous—staff, accidents, fuel, electricity, taxes

The general structure of these statistics has been maintained since 1929

INTER-RAILWAY ACCOUNTING

The settlement of inter railway accounts demands a high degree of co operation

- (i) The charges, whether paid at the commencement or conclusion of the transport service, must be distributed in agreed proportions between all the Administrations which share in the service ,
- (ii) Claims paid, where divisible under the terms of the Conventions must be debited proportionately between the Administrations concerned ,
- (iii) Charges for the use of rolling stock (passenger or goods) must be levied and paid according to the principles agreed for the purpose ,
- (iv) Charges paid by or to the public will be paid in the national currency appropriate to each Administration.

This last problem had taken on a singularly intractable character, when currency fluctuations became so frequent during the last decade before the war

In January 1925 there was established, mainly by the activity of the U I C (see p 12), a central clearing office at Brussels for all inter-railway accounts (B C C) Other clearing offices, however, continued to operate, notably the German Office at Berlin established long before by the V D E V

Owing to currency disturbances, the B C C ceased operations in August 1932 The U I C was able to set it going again in November 1932, but with a reduced membership—thirty one Administrations out of sixty nine possible It continued to operate under regulations drawn up by the U I C, but its operations were greatly hampered by monetary disturbances The B C C first worked in dollars, but afterwards used the Swiss and Belgian franc

SETTLEMENT OF DISPUTES

There is no generally approved machinery for the settlement of European railway disputes Provisions for arbitration, however, form part of the constitution of the U I C and the V D E V, and are included as part of the C I M, C I V, R I V, and R I C These generally provide for arbitration within the organization concerned, to the exclusion of reference to the courts or outside bodies The League Transit Organization is also empowered, under Article 35 of the Geneva Convention of 1923 (see p 70), to give an advisory opinion It has acted as mediator on several occasions in cases which were not covered by one or other of the Conventions, etc The Geneva Convention also provides for reference, if necessary, to the Permanent Court of International Justice There is no machinery for preventing rate wars

SANITARY CONTROL

No difficulty has been found in the application of the International Sanitary Convention of 1926 so far as it relates to rail transport

LABOUR

The I L O examined the possibility of securing international agreement on hours of work, but made no progress

A general review of the machinery in operation for the co-ordination of European International Rail Transport, as it existed before the outbreak of the second world war, is given in a later chapter (see p 127 *et seq*), together with some tentative considerations for the guidance of future action

Railway Operations at Frontiers

This extremely complicated question had, before the war of 1914-18, been governed by numerous bilateral agreements. That war, however, rendered many of the frontier stations useless and created the need of new ones. Thereafter the whole subject has received the consideration of various bodies and has been the subject of the most detailed recommendations.

The International Chamber of Commerce has passed several resolutions with the general object of simplifying and expediting formalities.

The League of Nations Transit Organization published in 1935 a detailed study entitled *Juridical and Administrative Systems in Force on the Frontier Sections of Railway Lines and at Junction Stations*¹. This paper draws attention to the unsatisfactory situation arising from the multiplicity of treaties and of laws to be applied, and makes lengthy recommendations. Little result, however, seems to have been obtained.

The Passenger Traffic Commission of the U.I.C. considered the question in 1923, and passed a long resolution dealing with passports and visas, international trains, joint frontier stations, police, customs offices, inspection of registered luggage and similar questions.

The Reichsbahn has drawn up a detailed pamphlet enunciating the principles which should be incorporated in formal treaties and those which should be incorporated in agreements between railway Administrations.

It is difficult to say how far any of these studies have led to effective action. It may be noted, however, that the following treaties have been concluded since the last war:

Germany and Poland	1926
Czechoslovakia and Poland	1927
Austria and Hungary	1930
Czechoslovakia and Germany	1931
Bulgaria and Roumania	1935

The first of these treaties set the general pattern². It consists of forty-four Articles covering the whole field in great detail, but, despite the amount of detail, a supplementary local agreement has to be concluded for each separate frontier crossing.

There are many frontiers which are not covered by any general treaty such as those enumerated. In these cases there may be special

¹ C 144 M 75 1935 VIII

² L.N.T.S. vol. LXIV p. 249

treaties in force in regard to particular joint frontier stations, or there may be two stations, one on each side of the frontier, with separate sets of formalities and a mere delivery from one Administration to the other at the frontier point

Train Ferries

International train ferries have been in existence for many years in the Baltic. A German Swiss train ferry crosses Lake Constance (*Friedrichshafen Romanshorn*).

A train ferry for goods traffic only was established between Harwich and Zeebrugge (140 km) in 1924 by Great Eastern Train Ferries Ltd, and was managed by the London and North Eastern Railway. In 1933 it was taken over by the Railway Company.

In October 1936 a full passenger and goods train ferry service was inaugurated between Dover and Dunkirk, by co operation between the Southern Railway, the Nord Railway, the Wagon-Lits Company and the Chamber of Commerce of Dunkirk.

Since the war began a new train ferry has been constructed and put into operation between Rustchuk and Giurgiu on the Danube, but it is believed that this has since been destroyed. There is also understood to be a train ferry of a primitive character in operation across the Bosphorus (*Haidar Pasha*). This might open the way for the through conveyance of wagons from Europe as far as Baghdad and Cairo.

St Gotthard Convention

The St Gotthard tunnel was originally constructed under an Italo-Swiss Convention of 1869, to which Germany later acceded.

This was replaced by the Gotthard Convention of 1909 between Switzerland, Italy and Germany.¹

Under this Convention all three parties agreed to do everything in their power to facilitate traffic between Germany and Italy (Art 4). Switzerland undertook that rates should be as favourable as those on any other transalpine railway (Art 7), and to grant to German and Italian railways and frontier stations the same facilities as to other foreign railways or frontier stations (Art 8). Maximum passenger rates were fixed, Swiss transit rates for goods were not to be raised so long as German and Italian rates were not raised (Arts 10 and 11). In the event of electrification, equipment was to be ordered by tender open to all countries.

This Convention, particularly from Article 7 onwards, was very unpopular in Switzerland, as tying the hands of the Swiss Govern

¹ B F S P vol CV p 639

ment without any corresponding advantages. It was only ratified in October 1913.

Under the Treaty of Versailles (Art. 374), Germany undertook to accept the denunciation of the Convention within ten years on request from Switzerland after agreement with Italy. Switzerland and Italy, however, were unable to agree, and the Convention was never denounced. In 1935 the Swiss Government pleaded the terms of the Convention as debarring them from stopping goods (other than arms) in transit to Italy. In the same year the Convention was extended for a further five years.

Transit through the U S S R

In 1936 there was no hindrance to transit to and from 'trade agreement' countries. These included all the principal European countries (except those named below) and also Iran, Turkey, the United States and Yemen. On the other hand transit was only permitted by special routes in the case of countries with no trade agreement, although in normal diplomatic relations with the U S S R (Austria, Finland, Hungary, Poland, China, Japan and others). Whilst in the case of countries not in diplomatic relations with the U S S R (Portugal, Switzerland, Yugoslavia and others) no transit was allowed except by special permission.

In addition, certain goods (sugar, matches, rubber, soap, etc.) were prohibited in general, unless expressly allowed in the trade agreements, but were permitted to pass in certain directions.

V EUROPE POLITICAL AND ECONOMIC FACTORS

DEVELOPMENT OF RAILWAYS AND RAIL TRAFFIC

THE following figures indicate the development of European railways and railway traffics between 1920 and the outbreak of the second world war

TABLE I

Comparison of Increase in Railway Kilometrage
in Various European Countries, 1920-37

<i>Increase less than 5%</i>	<i>Increase 5% to 10%</i>	<i>Increase 10% to 20%</i>	<i>Increase over 20%</i>
Austria	Belgium	Denmark	Bulgaria
Czechoslovakia	France	Greece	Estonia
Germany	Portugal	Italy	Finland
Great Britain		Sweden	Latvia
Hungary			Norway
Lithuania			Roumania
Luxemburg			Yugoslavia
Netherlands			
Switzerland			

Source *Railway Year Book* 1941 2

Density of Railway Network in the Same Countries, 1923
(kilometres of railway per square kilometre of area)

Austria	8.0	Belgium	36.5	Denmark	11.5	Bulgaria	2.5
Czechoslovakia	10.0	France	9.7	Greece	2.5	Estonia	3.0
Germany	12.2	Portugal	3.7	Italy	6.7	Finland	1.1
Great Britain	16.0			Sweden	3.4	Latvia	4.3
Hungary	10.2					Norway	1.1
Lithuania	5.6					Roumania	4.0
Luxemburg	20.7					Yugoslavia	3.7
Netherlands	10.1						
Switzerland	14.0						

Source *Archiv für Eisenbahnwesen* 1925

TABLE II
Railway Gross Receipts as percentage of 1929 receipts

	1929 (as standard)	1930	1931	1932	1933	1934	1935	1936	1937
Great Britain (four group companies)	100	94	87	80	79	83	84	87	91
<i>Scandinavian Region</i>									
1Denmark (State Rlys)	100	99	93	80	87	92	99	106	108
2Norway " "	100	98	92	83	83	85	88	92	99
Sweden " "	100	97	87	74	74	85	93	101	113
Finland " "	100	90	79	77	83	94	97	105	121
<i>Western Continental Region</i>									
France (SNCF)	100	99	91	77	73	70	63	64	80
Belgium (Société Nationale)	100	100	87	69	66	63	62	63	76
Netherlands	100	97	91	77	68	62	56	52	56
Italy (State Rlys)	100	92	77	67	61	58	61	73	81
<i>Central Region</i>									
Germany (Reichsbahn)	100	85	72	55	55	62	67	74	83
Czechoslovakia (State Rlys)	100	94	88	70	63	64	67	71	85
Hungary	100	88	75	64	61	63	63	71	79
Austria (Federal Rlys)	100	96	79	69	65	63	63	63	—
<i>Baltic Region</i>									
Estonia (State Rlys)	100	101	83	71	65	81	79	89	97
Latvia (Latvian Rlys)	100	91	80	62	61	68	68	72	96
Lithuania (State Rlys)	100	96	101	74	65	65	66	72	72
Poland " "	100	91	81	63	56	56	56	52	60
<i>Balkan Region</i>									
Yugoslavia (State Rlys)	100	99	89	74	73	74	75	77	91
Bulgaria " "	100	89	94	89	87	—	86	93	109
Roumania " "	100	98	82	71	70	73	73	82	94
Greece " "	100	97	87	71	71	81	91	102	113

1 The fiscal year is reckoned as from 1 April of the year heading each column to 31 March of the following calendar year.

2 The fiscal year is reckoned as from 1 July of the preceding calendar year to 30 June of the year heading each column.

3 The fiscal years 1929-33 are reckoned as from 1 April of the year heading each column to 31 March of the following calendar year.

From 1933 onwards the fiscal year begins on 1 January

Source B.U.I.C., 1938 and 1939

TABLE III Railway Expenses
as percentage of 1929 expenses

	1929 (as standard)	1930	1931	1932	1933	1934	1935	1936	1937	1929	1937	as percentage of receipts
Great Britain (four group companies)	100	97	89	84	83	85	86	88	92	79	79	
<i>Scandinavian Region</i>												
Denmark (State Rlys)	100	102	97	92	91	95	98	102	108	98	97	
Norway "	100	102	102	99	93	89	91	96	104	99	104	
Sweden "	100	99	99	96	95	98	102	107	120	76	80	
Finland "	100	97	89	91	88	90	96	101	110	85	77	
<i>Western Continental Region</i>												
France (S.N.C.F.)	100	112	109	101	96	88	83	85	117	79	117	
Belgium (Société Nationale)	100	103	99	85	76	74	70	75	87	86	99	
Netherlands	100	99	98	90	84	80	74	71	70	72	91	
Italy (State Rlys)	100	94	82	73	73	71	70	70	75	88	81	
<i>Central Region</i>												
Germany (Reichsbahn)	100	91	81	67	68	74	76	78	89	84	91	
Czechoslovakia (State Rlys)	100	102	94	89	81	78	79	80	85	93	93	
Hungary (State Rlys)	100	88	83	78	77	80	77	81	83	103	110	
Austria (Federal Rlys)	100	101	90	79	73	71	71	72	—	95	99	
<i>Baltic Region</i>												
Estonia (State Rlys)	100	97	95	87	81	86	92	97	107	77	90	
Latvia (Latvian Rlys)	100	110	105	87	79	79	77	81	97	81	78	
Lithuania (State Rlys)	100	101	103	85	76	71	67	70	74	73	75	
Poland "	100	94	84	66	58	55	53	52	55	89	81	
<i>Balkan Region</i>												
Yugoslavia (State Rlys)	100	102	95	77	74	74	78	76	78	99	81	
Bulgaria "	100	105	114	111	110	—	105	117	104	69	72	
Rumania "	100	90	79	60	56	61	64	68	77	104	95	
Greece "	100	110	100	91	90	90	95	108	115	93	95	

¹ The fiscal year is reckoned as from 1 April of the year heading each column to 31 March of the following calendar year

² The fiscal year is reckoned as from 1 July of the preceding calendar year to 30 June of the year heading each column

³ The fiscal years 1929-33 are reckoned as from 1 April of the year heading each column to 31 March of the following calendar year

From 1935 onwards the fiscal year begins on 1 January

Source B.U.I.C., 1938 and 1939, and U.I.C. statistical volume, 1929 and 1937

Owing to changes of boundaries, it is difficult to draw comparisons with the period preceding the first world war. Even over subsequent years the statistics available are partial and unreliable. The following general observations must therefore be regarded as tentative and liable to revision.

Length of Line

The period between the first and second world wars shows little increase in railway mileage in the highly industrialized countries of Western Europe (see Table I). None of these countries can point to an increase in mileage exceeding 10 per cent, Great Britain and Holland show no increase at all, Germany an increase of barely 1 per cent. This, however, does not imply that railway construction as a whole had come to an end in those countries, but rather that the construction took the form of duplication of tracks and bridges, extension of stations and other facilities and, as will be set out in greater detail elsewhere, electrification of tracks. It cannot, therefore, be confidently affirmed that the interim peace was marked by any decline of constructive activity. Increase of mileage is, however, a test of one side of that activity, and it is observable that this activity prevailed most notably in the Balkan and Baltic countries (except Lithuania), where the ratio of railway mileage to area is at its lowest. (It is unfortunate that figures for Poland are not available.) There can, however, be little doubt that in spite of the growth in railway mileage which had taken place up to the year 1937 there is room for further considerable extension of transport facilities in all those countries. Water transport is no doubt susceptible of further development where the circumstances are specially favourable, but road transport, which is making such rapid advances in the densely populated countries of the West, is unlikely to provide an adequate substitute for rail transport in eastern European territories. Speaking broadly the main burden of providing improved facilities will have to be undertaken by the railways.

Railway Operation

If we turn from the question of railway construction to examine the results of railway operation, we are still in some difficulty owing to the dearth of satisfactory comparative statistics. However, the bulletin and the annual statistical volume of the UIC supply comparable and fairly comprehensive figures from 1929 onwards, and this is a service for which they deserve the fullest appreciation. It is unfortunate that the disturbed state of Europe from 1938 onwards makes comparison unreliable after the year 1937.

Receipts Figures for gross receipts for the years 1929 to 1937 are given in Table II. The year 1929 is standardized at 100 for all countries, and the figures for other years are given as percentages of 1929. The countries are enumerated in rough geographical grouping.

These figures cover the period of the great depression in trade and may be taken as a fair indication of the progress of that depression and of the recovery from it in each of the countries concerned. Any inferences drawn from them are, however, subject to two important qualifications. First, the volume of railway gross receipts must be assumed to remain throughout an equally reliable index of the volume of trade, and secondly the year 1929, adopted as the standard, must be assumed to represent, in all the countries enumerated, the same stage in the general trade cycle. Variations in the exchange value of the different currencies will also have a disturbing effect.

Subject to these qualifications the following conclusions may perhaps be noted.

(1) The Scandinavian Group show the greatest measure of recovery from the lowest period of depression in 1932. Receipts in 1937 range from 99 to 121 per cent of the 1929 figures.

(2) The Balkan Group, though they suffered more severely in 1932-3, show an almost equal measure of recovery, with receipts in 1937 ranging from 91 to 113 per cent of the 1929 figures.

(3) The Western Continental Group experienced their worst period of depression some years later than the other groups, i.e. in the years 1934-6, and they had shown, on the whole, less recovery than the other groups, at any rate up to the year 1937. This was perhaps, in part, due to road competition.

(4) The Central Group suffered very severely. Their worst period was the year 1933. From that date they have shown a steady recovery, though in the case of Germany this may have been largely artificial, but in 1937 their receipts still ranged no higher than 79 to 85 per cent of the 1929 figures. The case of Austria is exceptional, receipts fell continuously to their lowest point (63) in 1934, and subsequent years show no increase. The reason for this may perhaps be sought in the special confusion of the Austrian railway system to which reference is made on page 77 *et seq.*

(5) The particular conditions of the individual countries concerned probably account for the variety of the results shown in the Balic Group of countries. The recovery shown in Estonia and Latvia was almost as marked as in the Scandinavian countries, on the other hand the heavy and long-continued decline in the receipts of the Polish railways, coupled with the very limited recovery in

1937, call for separate consideration. Statistics of the volume of traffic carried by the Polish railways show a steady increase since 1932-4 to a level in 1937 approximately 82 per cent of the 1929 volume. The fact that receipts remained at 60 per cent of the 1929 figure points to a drastic policy of rate reduction as a possible explanation (see pp. 61-63).

Expenses. In Table III, as in Table II, the year 1929 has been taken as the standard (100) for each country, and the figures for other years are given as percentages of 1929.

The figures show, for nearly all countries, some reduction in expenses during the earlier years, in harmony with the diminution of receipts though less marked in degree. Generally speaking, this reduction reached its maximum in the years 1933-5. Thereafter the expenditure tends to increase once again, and this in its turn corresponds with an increase in receipts.

The last two columns of the table give the ratio of expenses to receipts (operating ratio) in each of the countries selected, in 1929 and 1937 respectively. In the absence of very marked changes in the level of receipts, it may be taken that an increase of the operating ratio means a smaller margin of profit, and more difficult times generally, to the Administration concerned.

The following comments may be suggested.

(1) Among the highly industrialized countries Great Britain and Czechoslovakia showed the highest degree of stability. Both countries maintained the same operating ratio in 1937 as in 1929, but with a somewhat reduced traffic. In Germany the operating ratio had increased from 84 to 91 on a substantially reduced traffic. Belgium, the Netherlands and France showed an even more marked deterioration, and in progressive degree.

(2) In the case of France, whilst slow progress was made in the reduction of expenses up to the year 1935, the next two years showed a definite swing in the opposite direction, leaving the expenses of the S N C F 17 per cent higher than in 1929, along with a decrease in traffic of 20 per cent since the same date.

(3) The Scandinavian Region showed increases of expenditure which go far to wipe out the substantial increases of revenue already noted. The position in Denmark and Norway can hardly be regarded as healthy so long as the operating ratio remains at about 100 per cent or higher.

(4) Though the Italian and Polish State Railways had suffered a diminution in receipts even more catastrophic than that experienced in more industrialized communities, they had at the same time been able to reduce their expenses so drastically as to redress the balance. They reduced their operating ratio in the case of Italy from 88 to 81,

and in the case of Poland from 89 to 81. This reduction in fact left them with a net balance of profit not less than that which they earned in the more prosperous days of 1929.

(3) It is a remarkable fact that, tested by the improvement in operating ratio, the best results are to be found in the Balkan region. Though receipts had diminished, Yugoslavia and Roumania succeeded in cutting their expenditure so heavily as to show substantial improvements in their operating ratios and to bring them well below the unenviable level of 100. Bulgaria effected no improvement, but the Greek railways showed increases in receipts almost adequate to offset their increase in expenditure.

The general picture which emerges from these statistical tables is of a railway economy seriously shaken by an unexampled depression in international trade, but actively occupied in coping with its difficulties. There was general, though not universal, improvement during the latter part of the period under review and every indication that rail transport had survived the blizzard with undiminished vigour. The year 1938 did indeed mark an all round retrogression, but the figures are incomplete, and in any event the menace of war was already clouding the outlook. The general impression would appear to be justified that under conditions of peace the railways of Europe, in spite of growing competition, perhaps because of it, would have played an increasing part in the promotion of international trade and transport.

It may not be out of place to add special notes on railway construction in Eastern Europe and in Soviet Russia.

Eastern Europe

Taking Europe as a whole, the need for railway extension seems, as already suggested, to be most urgent in the eastern and south-eastern countries. This was fully appreciated after the first world war. Not merely were railways required for local development and to adapt the pre-war systems to the altered territorial situation, but there was an urgent need, both on economic and political grounds, for better through routes connecting the Middle Baltic with the Black Sea, with Istanbul, and with the Mediterranean. Poland was particularly conscious of the importance of these through routes, in order to secure the *economic advancement of the whole area* and, at the same time, to develop north-south traffic independent of Germany.

Nevertheless, the results obtained were disappointing, this was due mainly to three causes

- (a) the mutual jealousies of the various countries concerned,

- (b) the difficulty of finance, particularly in the second post war decade,
- (c) the Danube, particularly the cost and the international complications involved in providing either bridges or train ferries

It was the first factor which stultified the negotiations between Bulgaria and Roumania for the construction of an improved through route between Bucharest and Istanbul (1936) with a bridge across the Danube

In 1938 Poland, Roumania, Bulgaria, Yugoslavia and Greece agreed upon a more general programme for improved north south communications. The scheme included the provision, *inter alia*, of two bridges across the Danube. The Governments concerned, however, were unable to put up the money themselves, or to raise it elsewhere. Since the war began, a new train ferry has been constructed and put into operation between Rustchuk and Giurgiu.

In the confused conditions which are likely to prevail in South Eastern Europe after the present war, it would still appear to be desirable to give international consideration to the whole problem of railway development in this area, and to the question of through routes linking the Baltic with the Mediterranean. The Danube is a transport route of the first importance for linking east and west, but it has been an obstacle to north south transport, and the surmounting of this obstacle by suitable crossings, whether by bridge or train ferry, is one of the most urgent physical problems of international European transport in the future.

Soviet Russia

The problems of railway development in Soviet Russia during the period between the two wars were not essentially different from the problems facing the Balkan countries, but the methods employed in meeting them were at once more carefully planned and more thorough going. The result may be seen in the adequacy with which the Soviet railway system has been able to meet the unexampled demands of the war period. As compared with the more densely populated countries of Western Europe, on the other hand, the situation in Soviet Russia, both geographically and economically, was in such contrast as to present a wholly different set of problems for solution.

Railways play a predominant part in the Soviet transport system. Before the second world war the railways carried some 89 per cent of the whole inland freight traffic of Soviet Russia, while waterways carried 8 per cent and motor transport 3 per cent. Moreover, the waterways were, for the most part, closed to traffic by frost for five to six months of every year. It may be said, therefore, that the

railways had little to fear from competition in this quarter, whilst in the case of motor transport, owing to the great distances involved, competition was non-existent. The motor transport industry served almost entirely as an ancillary service, for the purposes of short-distance collection and distribution.

Whilst this situation had arisen more or less naturally from the geographical conditions of a vast thinly peopled area, it was still further emphasized by the conscious central planning of the whole Soviet economy. That economy was based on a deliberate policy of expanding development, economic production was based on a series of five-year programmes, and plans for transport facilities were laid out beforehand to cope with the contemplated expansion of production. Railway facilities were the central factor in the Government plan of transport development.

The situation was thus totally different from that existing in Western Europe and America. In Soviet territory, traffic came to the railways without asking, was in fact directed to them, and their problem was to expand their facilities with sufficient rapidity to enable them to handle the business. They enjoyed a further advantage which was conspicuously not available to their railway colleagues in western countries—a stable demand for their services in accordance with a pre-arranged programme, free from the unpredictable fluctuations of financial crises and international convulsions.

In these conditions a marked increase in the railway equipment of Soviet Russia was to be expected, and has in fact taken place. No statistical figures are available to illustrate the position of railways in European Russia alone, but the following table gives some idea of the development of the railway system in the whole of Soviet territory since 1913.

	1913	1921	1928	1938
Length of route (miles)	36 000	36 000	47 000	55 000 ^a
Number of locomotives	20 000	19 000 ^b	16 000	25 000
Number of freight cars	500 000	400 000	475 000	650 000
Tonnage of freight carried (millions)	132	39	156	316
Net ton mileage of freight traffic (millions)	40 900	—	54 800	230 700
Number of passengers carried (millions)	184	—	280	1 177

(a) Professor T. S. Khachaturov in a paper on the Organization and Development of Railway Transport in the U.S.S.R. *International Affairs*, April 1945 gives the present figure as 66 000 miles.

(b) Of this number no fewer than 12 200 were out of service or under or awaiting repair.

Source: Charles E. Whitworth, *The Russian Railways*, *Annals of the American Academy of Political and Social Science*, Nov. 1943, p. 151.

These figures present some remarkable results. The volume of freight carried, as measured by ton mileage, has increased nearly six fold between the years 1913 and 1938, passenger travel has increased more than six fold, yet the length of route has increased by little more than 50 per cent, freight cars by 30 per cent, and locomotives by no more than 25 per cent. To some extent this contrast is misleading. The Soviet Government has followed a consistent policy of building more powerful locomotives and higher capacity wagons in place of those scrapped or destroyed, and they have scrapped freely, it is stated, for instance, that at the outbreak of the second world war more than half of their locomotive stock consisted of powerful modern engines, built between 1929 and 1940. The increase in motive power and in wagon capacity is therefore considerably greater than the figures by themselves would suggest.

However, when all allowance has been made for this weakness in the comparison indicated, it remains the fact that the railways of Soviet Russia have made a fuller use than ever before of the track and equipment at their disposal. This has been the result of a deliberate policy. *They have made it their aim to use heavy weight trains approximating to American practice, and at the same time to make a more intensive use of their track, with a high density of traffic, following in this the example of west European industrial countries. They have increased the daily mileage of their locomotives, and speeded up the circulation of their wagon stock. It has been a part of this policy to strengthen their permanent way and increase their double track mileage. These tendencies have, it is believed, been carried rapidly forward during the war, and it is claimed that they have brought the Soviet railway system, as a whole into fair comparison with the most up to date systems of railway transport elsewhere, e.g. in the United States of America.*

It is evident however, that having regard to the extent of the Soviet territories and their population very considerable further extensions will require to be made, and this is admitted. It by no means follows, however, that under a State-planned system, the economic ratio of railway mileage to population need be by any means as high as in countries where the rivalries of competing railway enterprises have been the governing factor. In the mean time, the railway network of Soviet Russia still falls below the full requirements of traffic. While in Britain and America railway policy has been directed to creating the demand for transport, in the U.S.S.R. all transport which could be classed as unnecessary was considered economically wasteful and a thing to be eliminated. In most countries the mileage rate on merchandize traffic diminishes as the distance increases (see p. 60). In Soviet territory, on the

contrary, this 'taper tariff' policy is reversed. The mileage rate is actually increased for long distances in order to discourage long-distance traffic.

Speaking generally, it may be hoped that much fuller information bearing on the development of the railway system in Soviet territory will in due course be forthcoming. The history of that development and its future progress under a régime of central planning as part of a centrally controlled economy, cannot fail to be full of the greatest interest to countries whose economy is of a more competitive or less centralized character.

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THE RAILWAYS IN MODERN TRANSPORT

We may now appropriately turn from these problems of physical development to the consideration of the railways and railway transportation generally in their economic aspect.

During the period between the two world wars a profound change took place in the nature and outlook of the railway industry. Prior to 1914 the railway industry had reached a high level of performance. Though the mileage of the railways was steadily increasing, particularly in the countries which were least developed, this increase nevertheless did little to change the finance, the methods of operation or the outlook of the railways as an industry. From these points of view the railways appeared to have reached a position of stability, both technically and economically, and this seemed to correspond with a similar stability in the demands for transport made upon them. There was growth and there was improvement, yet neither seemed to foreshadow any change in the general character of the service given or required. The railway industry was in a static condition, and was regarded almost as the type of stability in the general economic framework of European industry.

With the end of the first world war new factors arose. The railways found themselves forced to meet new demands both in methods and performance, and to fight for their position in the transport world against growing competition. From being a public service, they became partners and instruments in State policy—even a weapon in the armoury of international economic war. One may perhaps say that from being static they tended to become dynamic.

It is desirable to consider the nature of these new factors in greater detail.

(a) *Increase in costs of operation* A general rise in prices was one of the most unmistakable consequences of the first world war and of the short sharp boom which followed it. Though prices fell some way from their highest point, they never returned to anything like their old level. The operating costs of the railways were doubled.

Charges were necessarily raised to meet this increase, but the increase in charges was limited partly by public policy and partly by competition. Even where it was sufficient to maintain the old level of profit (and that was unusual), it left the railways in a more precarious position, inasmuch as their expenses on the new level represented a much higher proportion of their gross receipts, and the margin to meet fluctuations in volume of traffic was much narrower.

The point may be made clearer by illustration. In the year 1912, before the first world war, the British railways spent £63 in working expenses to earn £100 in gross receipts, the balance of £37 paid a return of $3\frac{1}{2}$ per cent on the capital invested. After the war (1924) working expenses showed an increase of 138 per cent, one might say that the £63 had advanced to £150, and without an increase of charges there would have been no balance for the remuneration of capital, indeed, there would not have been enough money to pay current expenses, and the railways would have been bankrupt. Some increase of charges was necessary. In the case of the British railways the increase ruling in 1924 may be put at about 60 per cent—the £100 of 1912 would have advanced to £160, leaving a balance of £10 (in place of £37) for the remuneration of capital. Owing to changes in the nature and volume of traffic these figures must be taken as illustrative only. The same or similar changes were taking place all over the world. In a favourable case the charges might be so increased as to leave an undiminished balance for the remuneration of capital, yet even so the situation was definitely changed for the worse. To meet an increase of expenditure such as the British railways experienced and, at the same time, to leave an undiminished margin for the remuneration of the capital invested, it would have been necessary to raise charges by 87 per cent. The ratio of expenses to receipts would thereby have risen from 63 per cent to 80 per cent, and the margin of receipts to cover fluctuations of traffic would have sunk from 37 per cent to 20 per cent.

Where it had not been possible to increase charges so as to cover increased expenses (and this was the commoner case), the position was even more unfavourable. The net receipts were not enough to maintain the old return on capital, and a 10 per cent decline in traffic might wipe out more than half of this inadequate balance.

A high operating ratio is not in itself a symptom of weakness in a railway, on the contrary, it is more generally an indication of high efficiency. Where traffic is intensive and methods of operation are economical, a low level of rates will give margin enough to ensure an adequate return upon capital, while a scanty traffic carried at high rates may spell bankruptcy. It will generally be found that the lowest operating ratio is a feature of the least progressive countries.

Nevertheless, a sudden change from a relatively low to a much higher operating ratio calls for immediate action to avoid disaster, and the nature of the action required has been sufficiently indicated—traffic must be made more intensive, by the introduction of new business, and costs of operation must be reduced by economy and scientific management. These necessities were fully recognized by the European railways in general, and especially in the more fully developed industrial countries.

(b) *Competition* At the same time the development of road competition, at least in its national aspect, became a serious menace to the well being of the railways. In some cases, the close association between the railways and the State proved useful in imposing certain restrictions on road transport. Nevertheless the competition remained, although less intensive in character. Its field lay precisely with those higher descriptions of traffic which contribute most highly per unit of weight to the revenues of the railways, and left for the most part untouched the heavy traffics in the carriage of which the railways render their highest service to the community, whilst receiving in compensation the lowest unitary contribution to their revenues.

The competition of road transport affects both charges and services. The rates offered were lower, the transit often more expeditious. The railways could only meet the danger by lower rates and better service, and lower rates for the same volume of traffic are ruinous, if they are not accompanied by reduced costs. The railways found themselves shaken out of their old static position into a policy of new and improved services and more scientific economy in management.

The effect of the development of air services has not been so marked, though it may be of first class importance in the near future. It seems evident that the competition will be a competition in service only, not in rates, and it will be for the railways to consider how far they can improve their services in speed, comfort and prestige to meet the new rivalry in the air. Some notable advances of this nature were made in the last decade before the war.

Water competition, on inland waterways, has always been a feature of international European transport, and was maintained on a full level of efficiency between the two wars, the competition in rates was active, but there was no evident swing from one form of transport to another, and the competition produced no new creative effect.

(c) *Instability of Trade* The whole period between the two wars was marked by serious and increasing instability of trade both national and international. The fluctuations far exceeded those

which Europe had known before the first world war, and were more unpredictable. No calculations, however prudent, could be relied upon, the old stability of rail transport conditions faded away and gave place to a spirit of adventure and speculation. Such adventures called for State support and were in fact generally undertaken for purposes foreign to transportation as such—for instance, the need to stimulate distressed industries, the encouragement of a national port policy, or the implementation of some international trade bargain. The main feature of such adventures was the use of rail tariffs *not as a reasonable support for a stable industrial system, but rather as a weapon for the achievement of international attack or defence, a political rather than an economic instrument.* The uncertainty of the international exchanges, which was so marked an element in international instability from 1929 onwards, accentuated this whole tendency and did much to lower railway problems to the level of a stock exchange speculation.

It was perhaps the emergence of an armament programme in certain European countries which brought back the railways in those countries from these speculative ventures to their essential business of handling an intensive traffic with scientific economy and regularity.

There were no doubt other factors which affected the railway situation and railway policy, such, for instance, as changes of political boundaries, but these were mainly of a local or temporary character. The three factors already described were more nearly universal in their character, and their effects on railway policy are worth special consideration.

It may, at the outset, be noted that the first two factors—higher operating ratio, and road competition—pulled in the same direction, in both cases the remedy was to be found in more scientific management, better service and new traffic. On the other hand, the third factor—the speculative, nationalistic side of railway policy—diverted attention from the problems of sound management into a field where patient economies hardly counted, and where the prize itself had little relevance to railway finances. Nevertheless, all three factors worked together to change the whole character of the railway problem as it presented itself both to Governments and to Administrations.

The use of railway tariffs for political ends, or for purposes not purely related to transport revenues, will be dealt with in some detail in later paragraphs.

Reference has already been made to the action taken and the efforts made by the European railways in the direction of reducing

costs and of creating new traffic during the inter war period. The institution of the express parcels service (p 27), the provision of containers (p 28) and the establishment of improved fast freight services (p 21) were all items in this general programme, although admittedly owing their initiation in part to the new stimulus of road transport. The urge towards standardization in track, in locomotives, and in passenger and freight carrying vehicles had its origin in the same over riding desire for more scientific management, though it has to be confessed that, in these particular directions, only limited progress was made. The introduction of electric traction had the same objective in view and was as a policy pursued with more success. A special reference to this item may not be out of place at this stage.

Electric Traction

Among the most notable changes brought about by the war of 1914-18 was the increase in cost of coal. With this there was in certain countries a tendency towards the use of poorer qualities. In either case, the call for efficiency in consumption, or for the discovery of satisfactory substitutes, became urgent. At all times, an increase in the price or in the consumption of coal per train mile has been one of the most powerful inducements towards the conversion of steam traction to electric traction for main line working. It proved to be so in this case, there has been a marked development of electric traction, particularly in the more advanced countries of continental Europe, during the inter war period. The following figures are illustrative.

Development of Electric Traction on Main European Systems (kilometres of line electrified)

	1930	1937
Austria	822	900
France	1 596	2 997
Germany	1 541	2 263
Italy	1 615	3 929
Netherlands	114	527
Sweden	908	3 353
Switzerland	1 906	2 362
	<hr/> 8 502	<hr/> 26 333

The figures show a growth of nearly 100 per cent in length of line electrified, even during the disturbed period 1930-7. Figures taken over the whole inter war period would show a still more marked increase.

STANDARDIZATION OF GOODS TARIFFS

The urge towards standardization in the sphere of international transport between the two wars (see pp 15-17) was not confined to the physical standardization of track, rolling stock, etc., but was also directed towards the standardization of goods tariffs with varying success, in particular towards uniformity in nomenclature, in methods of publication and in structure. These will now be referred to in greater detail

Uniform Nomenclature of Goods

The combination of two or more national tariffs for the carriage of a well defined commodity is comparatively simple. Difficulties of a more serious nature arise when there is uncertainty as to the definition of the commodity in the different countries. According to the definition it may fall into one or more different tariffs or fall outside all existing tariffs in some of the countries through which it is to be transported. The difficulty can only be overcome by the adoption of a standard nomenclature.

The League of Nations Committee on Rail Transport, the International Chamber of Commerce and the U I C have all taken an interest in this question, and have to some extent collaborated.

The U I C has, however, found the task to be an impossible one, owing

- (a) to the almost infinite variety of articles and of component parts,
- (b) to the lack of standardization in specifications,
- (c) to the lack of standardization in terminology in the different countries

All that has so far been accomplished has been to compile a summary nomenclature of the principal goods in three languages—French, German and Italian (1930). The International Chamber of Commerce was still not satisfied before the war, but the U I C held that it was not practicable to go further to meet their views.

Standardization of Publication Practice

The C I M (1924—Arts 9-10) provided that tariffs must be duly published, but left the detailed application of this principle to the individual States. There were naturally wide variations of practice, which led to misunderstandings and disputes. The question of securing uniformity was first taken up by the Czechoslovak Adriatic Traffic Conference in 1932, and an 'Agreement for the uniform regulation of the publication of tariff measures concerning international railway union goods tariffs' was adopted on 1 January

1934 This was accepted by Austria, Hungary, Italy and Yugoslavia
 Notices of tariff increases must be

for seaport tariffs	30 days,
for other tariffs	21 days,

but alterations due to currency fluctuations are to have immediate effect Alterations of station lists, routing regulations and other tariff measures require only three days' notice

This agreement has worked satisfactorily

The V M E V has also taken the question into consideration, and in 1933 submitted proposals for the revision of the C I M No detailed regulations were accepted, but Article 9 of the C I M was modified to prescribe fifteen days' notice of increases of rates in international traffic

No further improvement has been effected

Standardization of Tariff Structure

The first prerequisite for international tariffs is stable currency relations Subject to this, there are the following problems

(1) Standardization of classification, so that the same goods are included in the same class in all the countries illustrated

(2) Standardization of horizontal graduation (e g, by weight per wagon) in each class, so that the same class shall have the same weight stages for graduation of rate, e g 'less than 3 tons', '3 tons', '10 tons', '15 tons' per wagon

(3) Standardization of the percentage reduction for such horizontal graduations

(4) Standardization in the treatment of less than wagon load freight

(5) Standardization of treatment of unwieldy objects requiring more than one truck

(6) Standardization of treatment of live stock

The first of these problems was tackled in 1934 by the Sudbahn Administrations, who were joined later by other Administrations They spent three years on glass, coal and grain In 1938 the position was reviewed, but no conclusion was reached, the conference merely added metals, machines, vehicles, etc, to their study The function of managing Administration in this inquiry is entrusted to the Yugoslav State Railways

The V M E V has endeavoured to elaborate a model tariff for international goods traffic, based on the relevant provisions of the C I M and D C This was finally approved by the Goods Traffic Committee of the V M E V in June 1938 No further progress has been made

In conclusion, it may be noted that the rail tariff problems here considered have no direct connection with the quantum of the tariffs. That question has generally been regarded as a matter for settlement between the railway Administrations directly concerned, not for general international agreement. For this purpose the Administrations concerned form 'tariff unions' which may cover single tariffs only, or large numbers of tariffs. Such tariff unions themselves are numerous, and multiplied rapidly in the period between the two wars. The principle of the tariff union is not unsound, and it may be hoped that these tariff unions will, in course of time, be consolidated and extended (see p. 64).

SOME ECONOMIC ASPECTS OF TARIFF POLICIES

In fixing their international tariffs European railways have two orders of considerations to take into account

(1) Competition with the other forms of transport

Road competition has affected national rail traffic very seriously, but in international rail traffic it has counted for little so far, perhaps in part because the rail rates for import, export and transit are, in general, so low that road transport cultivates other and more profitable fields of competition. Nevertheless, road transport cannot be left out of account when we look to the future.

Water competition has so far been much more effective. Owing to its much lower cost it is constantly operating in the most unexpected ways. An instance will illustrate this. Sugar from Czechoslovakia to Switzerland presented a regular traffic systematically divided between three different rail routes, the whole arrangement was shattered by the development of a circuitous water route down the Elbe to Hamburg, by sea to Rotterdam and up the Rhine to Basle.

(2) State Economic Policy

This had come to exercise an increasing, and indeed, paramount, influence between the two wars, notably the directional tariff policy (*Richtungstarife*) intended to back up the general policy of autarky. Value as the basis of tariff building is increasingly disregarded, and rail tariffs are being more and more used to promote exports and hinder imports—often to a point which completely disregards even out of pocket costs. As the railways are, in practically all cases, State owned, they can be freely used as instruments of economic policy at the expense of the taxpayer, though the existence of other means of transport, not in State-ownership, sets a limit to the extent to which railway tariffs can be used as instruments of prohibition. The policy, with its mutually conflicting results where pursued by two competing countries, is, of course, highly disadvantageous to

the railway economy Transit tariffs may be governed by pure transport considerations, but even these may be affected by national economic factors if the transiting country itself produces similar goods for export

It may be useful to illustrate these general considerations by a study of the problems presented and the policy followed by various States, particularly those of Central Europe

GERMAN TARIFF POLICY

Application of the Treaty of Versailles

Under the Versailles Treaty the German Government undertook, among other things, to make no discrimination in charges on goods 'based on whether any port through which the goods are imported or exported is a German port or a port belonging to any foreign country' (Art 323) Further, the seaports of the Allied and Associated Powers were 'entitled to all reduced tariffs granted on German railways' (Art 325)

These obligations were to be binding for five years from the coming into force of the Treaty, and were to lapse at the end of that period unless revised by agreement reached before the expiration of the five years (Art 378) The Treaty came into force on 1 January 1920

Nevertheless, the German railways in 1924 made a series of sweeping reductions in the tariffs for certain goods exported through German ports, as well as for certain favoured imports, the effect of which was practically to eliminate transit through Holland The Belgian, French and Italian Governments protested through the Conference of Ambassadors When the Conference ultimately moved in the matter (1925), it was found that the five years' period had expired, and that Articles 323 and 325, not having been revised, had lapsed

National Aspects of the Policy

Since the lapse of the relevant provisions of the Versailles Treaty, the Reichsbahn, as an organ of the unified German State, has pursued a frankly national policy Subject always to the limits imposed by competing means of transport, its policy has been directed towards the development of supposed German national interests, and in reaction against the equally national policy of the State Railway Administrations in neighbouring States Its leading principles may be described as follows

- (1) High rail rates for imports which compete with German industry,

e.g. imported grain is classed with flour, and foreign coal is put on a higher scale than German coal

- (ii) Low rates for imports necessary to German manufacture, e.g. cotton, wool and jute
- (iii) Low rates for German raw materials unfavourably placed in competition with the imported raw materials, e.g. sulphuric acid from central Germany to Silesia in competition with acid from Poland, or again coal from German inland coalfields to coastal factories in competition with imported coal
- (iv) Low export rates, e.g. on German coal, or iron and steel
- (v) Low port rates to help German ports in their competition with foreign ports, e.g. Gdynia. In this case the Polish Railway Administration played the leading part by quoting low tariffs against Bremen for Polish imports, and also low through tariffs for Czechoslovak imports (see p. 62)
- (vi) Low rates to one German manufacturing area to equalize concessions given under preceding heads to another area

In judging this policy as a whole, whether in Germany or elsewhere, it has to be remembered that many of the steps taken could be justified on purely commercial or economic grounds, as tending to increase the net revenues of the railway Administrations concerned, or at least to minimize losses. In other cases political considerations no doubt played the leading part, but even here economic grounds could be fairly put forward in justification of the action taken, as tending at least towards an increase of the national income. In all this there is nothing that can be described as unusual, or foreign to the policy of State railway organizations in other countries. However that may be, all these tendencies have become more marked under the National Socialist régime. In 1938 nearly 75 per cent of all traffic was being carried at special rates, and the average receipt per ton kilometre had fallen to 3.56 Rpf from 4.48 Rpf in 1928. To meet this, most of the normal tariffs were increased by 5 per cent.

In 1936 the Reichsbahn had 550 exceptional tariffs, of which 133 were export and 49 import tariffs. National policy must bear the main responsibility for these developments, but it is fair to keep in mind that road competition has undoubtedly been a contributory influence.

Some Competitive Aspects of German Tariff Policy

Statistics available for 1925 show the general tendencies of Reichsbahn rate policy as already developed at that date.

- (i) The general increase in rates (receipts per ton kilometre) over 1913 was 45.6 per cent.

- (ii) On distances up to 200 kilometres the increase was 33 per cent,
- (iii) On distances over 500 kilometres the increase was 30 per cent,
- (iv) On class tariffs the increase was 36 per cent,
On special tariffs the increase was 33 per cent,
On small lots of milk (special tariff 25) the increase was 49 per cent

These figures bring us up to the year 1925, in 1924 and still more in 1925, owing to the lapse of Articles 323 and 325 of the Versailles Treaty, there was a great development in exceptional tariffs to German seaports. This policy had a double object—to develop German exports (and raw material imports) and to secure the traffic thus created to German railways and seaports, in competition with the water route by the Rhine and the Low Countries, or with the foreign rail route by Mediterranean ports. The competition with Trieste (as against the Hamburg route) became particularly acute. A provisional settlement was reached at the end of 1926, and a definitive settlement, based on a territorial division between Austrian, Czechoslovak and German railways, was reached in 1928, an arrangement was, at the same time, made for Reichsbahn-Danube traffic and a tariff union established.

It was a point of policy with the Reichsbahn to maintain the flexibility of its exceptional tariffs. Many of them were frankly competitive and had to be varied to meet competitive conditions, otherwise valuable traffic might have been lost. On the other hand, competitive conditions might become easier and allow of an increase in the tariff. For instance, in 1928 the French rail tariffs were increased, and the Reichsbahn took the occasion to increase by 30 per cent its tariff on certain goods between the Swiss frontier and German seaports.

Export tariffs did not relate solely to seaports, a number of export tariffs via land frontiers were also introduced, e.g. for coal from Westphalia to Hungary and Yugoslavia via the Danube.

Transit tariffs played a special part in competition with foreign railways and ports, for instance, the Reichsbahn participated in direct tariffs between Italy and Scandinavia, between Czechoslovakia and Switzerland, etc. In all, the Reichsbahn had helped to form 120 tariff unions of various kinds by 1928.

SPECIAL CASES OF COMPETITIVE TARIFFS

Differential Treatment of British and American Asphalt

Occasionally, the logical application of the exceptional tariff principle led Germany into differences with foreign Powers. In 1930 Great Britain complained that American asphalt benefited from a lower exceptional tariff than British asphalt, but the Reichsbahn, whilst admitting the fact, had no difficulty in replying that, owing

to the greater distance of its port of origin, American asphalt could use the Mediterranean ports as easily as the Baltic ports, which British asphalt could not, and that the lower tariff from the Baltic ports was, therefore, necessary to secure the American business. They clung to the argument by pointing out that German asphalt, which (unlike British) had no competitive choice of route, was denied the advantage of the exceptional tariff which was open to the British article.

This case may be taken as typical of the difficulties involved in giving demonstrative proof of the common allegations of 'discrimination'.

Special Coal Tariffs—Germany/Switzerland/Great Britain

A similar complaint of discrimination arose in regard to coal traffic. Great Britain complained that British coal imported into upper Germany and Switzerland was being unfairly prejudiced by discriminatory rail tariffs.

The facts were complicated, but may, again, be given as typical.

In 1920 the Reichsbahn introduced what were known as 'taper tariffs'. The essential feature of these tariffs is that the increment per kilometre grows less as the total distance increases. This helps long distance traffic. The principle, in itself, is not only sound, but of general, almost universal, application. It is, for instance, fully recognized in British law as applicable to railway maximum charges, and is carried much further in British railway practice.

As a consequence, lower rates came into force for the carriage of coal by rail from the Ruhr to upper Germany and eastern Switzerland. Such coal was however also carried by rail to Rhine shipping-points, then by river to the upper Rhine landing points, and again by rail to destination. This 'water route' was prejudiced by the reduction of the direct rail rate. The Reichsbahn, presumably for reasons of State, met the grievance by quoting a lower rail rate, from the Rhine landing points to destination, on coal which had already been carried by rail from the Ruhr (or elsewhere) to the Rhine shipping points, or on an equivalent tonnage. This lower rate, however, was not, by its conditions, applicable to coal which had not previously been carried by a German rail route, e.g. British coal transhipped to Rhine barges at Rotterdam or Antwerp.

The British authorities accordingly complained of discrimination and represented that the new tariff conditions were contrary to Article 20 of the Statute on the International Regime of Railways (see p. 123). The German Government denied this allegation.

The Swiss Federal Railways also became involved. Some part of the coal (whether German or British) for East Switzerland had been

landed at Basle and carried by the Swiss Federal Railways to East Switzerland. When the lower rates on German coal came into force on the German railways between the Rhine and East Switzerland, this business was lost by the Federal Railways. They took opportunity later to compete once more by lowering their own rates, but since the reduction in rates on the German railways applied only to German coal, the Swiss reduction was also limited to German coal, and although British coal still enjoyed the old rate it was in fact shut out.

Neither Germany nor Switzerland accepted the British view of the transaction, and no action was taken in rectification.

North Sea/Adriatic Seaport Competition

In 1924-5 Italy, Hungary and Yugoslavia agreed upon a reduced tariff for goods in truck loads between Yugoslavia, Hungary and the Adriatic ports. The German railways feared that these reductions would affect traffic, especially imports, passing between Hamburg/Bremen and Austria, and accordingly they reduced their rates between these points to the level of the Trieste/Fiume rates, they only extended this concession, however, to the imports of those countries which could use the Baltic or Mediterranean routes in differently. Thus, French, Spanish and Portuguese traffic received the benefit, but Scandinavia, the Baltic countries and (later) Great Britain were excluded. The competition was in some measure mitigated in 1926-7 by a tariff agreement between the competing railways.

In 1931-2 Italy, Hungary and Austria entered into agreements for the formation of a joint tariff council whose task it would be to facilitate the exportation of their respective products and generally to strengthen the economic bonds between Italy and Central Europe.

German Polish Seaport Competition

As soon as the new Polish State had established itself and over come its initial problems, it realized that the maintenance of its economic independence was bound up with the development of its natural ports, Danzig and (later) Gdynia. At first the major part of its foreign trade was with Germany and was conducted across the land frontiers with that country. (In 1922, 47 per cent of Polish imports came from Germany, and Germany took 60 per cent of Poland's exports.) Poland set herself to correct this state of affairs, whilst Germany fought to establish her predominance. This led to a rupture of trade negotiations between the countries and a ruthless customs war. Special efforts were concentrated on the development

of traffic via Danzig and Gdynia, the turnover of those ports rose from 2,778,000 tons in 1925 to 6,705,000 tons in 1926, and ultimately to 16,300,000 tons in 1938. Meanwhile, the German share of Polish international trade sank from over 50 per cent in 1922 to 19 per cent in 1937.

Thus change was largely the effect of Polish port and railway policy. Poland's policy was to concentrate Polish exports and imports on Danzig and Gdynia. Owing to the location of Poland's manufacturing areas, this involved the quotation of special railway tariffs that paid little regard to the distance factor. At the same time, customs tariffs on import traffic at Polish seaports were reduced or abolished whilst being maintained at the land frontiers. In this way, transit of imports over the land frontiers was discouraged in favour of the ports.

Money was lavished on the equipment of the ports, Gdynia in particular, and to strengthen their position Poland endeavoured to make them entrepôts for traffic to and from points beyond her own frontiers. With this object she established special international railway tariffs with the neighbouring States of central and Eastern Europe. These tariffs also linked the Polish ports with river ports on the Danube, and Roumanian Black Sea ports. Poland pursued this policy with increasing vigour right up to the war, justifying it (apart from political grounds) on the alleged cheapness of Polish transport. In 1934 the Polish ports and railways opened offices in Prague, later in Belgrade, Bucharest, Vienna, Budapest and Bratislava.

In 1927-30 the annual average of transit goods via Polish ports did not exceed 300,000 tons. In 1937 this traffic had increased five fold. Transit traffic with Czechoslovakia amounted to 1,186,000 tons, with Roumania to 250,000 tons and with Hungary to 100,000 tons.

The Reichsbahn endeavoured to counteract the Polish policy. It was, of course, powerless as regards Polish imports and exports, especially when Poland used the customs barrier as an additional obstacle to imports over the land frontier. On the other hand, both the Reichsbahn and the German Government have done their utmost to compete with the international tariffs which Poland had established with Hungary, Austria and Czechoslovakia. The situation of the German ports, the shorter distances and the favourable river transport have all told in favour of Germany. Competing tariffs were put into force for Czechoslovak traffic, and when Poland further cut her tariffs the Reichsbahn instituted the so-called *Auslobungsfaktik*, under which they undertook to refund to traders any sum by which the charge under the German tariff exceeded that to Gdynia under

the Polish tariff. This 'tactic' was adopted in 1933, nevertheless, the Polish international traffic continued to expand. Later, the German Government used currency intricacies ('blocked' marks, etc.) to strengthen their position. The tariff battle seems to have been in full swing when war broke out in 1939.

In the meantime Czechoslovakia and Hungary, with three groups of ports competing for their traffic (German, Polish and Mediterranean), were in a favourable position to profit from every turn of the game, although Czechoslovakia, at least, seems to have been impressed (in spite of occasional political differences) with the importance of supporting the Polish partner.

SOME EFFECTS OF RAIL TARIFF POLICY ON INLAND WATER TRANSPORT

The Rhine and the Danube are the principal waterways of international importance.

The Rhine is the natural feeder of the Dutch and Belgian ports, and in this is competitive with German railways and German ports. The special seaport tariffs which had maintained stability before the war of 1914-18 were cancelled at the end of the war, with the result that Rotterdam and Antwerp benefited at the expense of Hamburg. Between 1913 and 1926 the traffic of Rotterdam had increased by 68 per cent, that of Antwerp by 61 per cent and that of Hamburg by 23 per cent only.

As soon as she deemed herself free to do so Germany re-established the seaport tariffs, e.g. with Switzerland, and cancelled the special tariffs for Dutch and Belgian ports. The French and Belgian railways responded by equivalent export tariffs to French and Belgian sea ports, though the distance was greater. The Dutch railways would have done the same, but their route lay via Belgium, which refused to reduce its high tariff for the intermediate section, and thus shut them out. The Reichsbahn alleged, it is difficult to say with what justification, that this 'left bank' policy did more to injure the Rhine water route than their 'right bank' policy.

In the case of the Danube, the Reichsbahn for obvious geographical reasons adopted a different policy. The Danube was not a competitor, on the contrary, it was a valuable ally, and the Reichsbahn tariffs were directed to encouraging traffic from Germany (or German seaports) for Austria, Hungary and South East Europe (to pass via the German ports on the Danube (Regensburg and Passau). The Czechoslovak railways adopted a similar policy, particularly favouring the port of Bratislava.

On the other hand, the Austrian Federal Railways regarded the Danube waterway as a competitor, and did what they could (1926)

to prevent transshipment from rail to water by granting special all rail tariffs

Poland also regarded the Danube waterway as a competitor since it facilitated the transit of traffic from West Europe and German seaports to South East Europe in competition with the Polish Roumanian route. Poland and Roumania had a common interest in this (see p 62), and in the years 1926 to 1929 established a large measure of co-operation with exceptional tariffs to Galatz and Constanza, and a general improvement of facilities. This included port improvements at the places named, and a proposal to double the railway between the Polish frontier and Galatz.

TARIFF UNIONS

Reference has already been made to the formation of tariff unions (p 56). Such a union may be defined as a combination of two or more railway Administrations to facilitate the transport of one or more commodities over one or more international routes. Tariff unions are very numerous. The co-operation of the members may take the place of competition between them, or may be directed to developing competition with other Administrations outside the union, or competition with alternative forms of carriage.

All such unions are based upon agreement as to the quantum of a particular rate, or scale of rates, or a series of scales. These may be varied from time to time, as circumstances may dictate, by agreement between the members. Variations in exchange will exercise, as is evident, an exceedingly disturbing influence. But economic conditions such as the growth, or cessation, of competition with non member organizations, will also have their effect according to the normal commercial considerations applying to such tariffs generally. It is fair to say that the various railway Administrations, if free to act in their own interests, would naturally promote the development of these tariffs at an economic level of rates as the best means of encouraging the growth of international traffic and of railway revenues, if it were not for the financial and political considerations which have so often pulled in an opposite direction. This aspect of the matter will come up for further consideration at a later stage.

Distribution of Revenue

The tariffs fix the agreed quantum of the rates between two given points. It remains to fix the agreed distribution of this quantum between the two or more Administrations concerned in the transport.

In the simplest cases, certain fixed expenses are first deducted and credited to the Administration concerned, e.g. terminal expenses to the terminal companies, the balance is then divided according to distance, i.e. the kilometrage owned by each participant in the route covered. But this simple principle is subject to a multitude of complications.

(a) One participant may perform services, such as haulage, on a part or the whole of the route owned by another.

(b) The route of one participant may have been especially costly to construct or may have involved individual works of special cost. In such cases a 'bonus' addition to the kilometrage of that participant may be agreed.

(c) One of the participants may enjoy some tactical advantage which enables him to exact a special share, or quota, as an inducement to forgo this advantage.

(d) A non member may have no share in the transport at all, but receive a share, or quota, of the proceeds as an inducement not to establish a competitive route in alliance with other non members.

These are no more than an indication of the considerations, legitimate and less legitimate, which may govern the division of a through rate or an international tariff scale between the various participants or potential participants. Not only the work done, but the strategic position of each participant, may decide the issue. The problem may be complicated, but, if commercial interests alone were at stake, its solution on reasonable lines would present no insuperable difficulty. Since 1918 the number of exceptional tariffs has increased, and the classification of goods has become more complicated, these features have done something to complicate the question of distribution, but currency instability and political considerations have proved themselves to be disturbing factors of greater importance.

Position of Great Britain

Whilst continental railways have entered freely into tariff unions for the development of international traffic, it has not been possible for the British railways to be parties to the international tariffs as between continental countries. The reason for this is that the terms and conditions for the conveyance of traffic under such tariffs are based on the Berne Convention, to which, as already explained (p. 31), Great Britain has hitherto been unable to subscribe. Britain's geographical position is also in part responsible. International tariffs as between Great Britain and the Continent do exist, however, and these are based on conditions specially adapted to effect a compromise between the Berne Convention and English law. There

are other differences of practice, e.g. in regard to less than wagon load traffic, which militate in a minor degree against co-operation. But it has to be borne in mind that any international tariff scale which may be proposed for adoption is most unlikely to involve any contravention of maximum powers or classification regulations that problems of undue preference are seldom insoluble, and that the export or import traffic which will be in question in such cases is for the most part carried in quantities and under conditions of an entirely exceptional character. The British railways are undoubtedly interested in the development of such traffic, and with the increase of facilities for direct conveyance by train ferry they may be expected to seek modification in the legislature which will enable them to participate in continental through tariffs governed by the Berne Convention.

PASSENGER TARIFF POLICIES

International passenger tariffs are relatively simple and do not give rise to serious complications. The issues relate mainly to (a) tourist traffic, and (b) transmigrant traffic.

Tourist Traffic

In 1922 Italy revived her policy of encouraging tourists by reductions to those who stayed six nights or more, and further reductions if they travelled in parties of eight or more. Religious pilgrims, honeymoon couples, even those celebrating their golden weddings received similar encouragement. In 1933 Germany followed suit, first with special reference to the Leipzig Fair, but later (1935) all the year round. She improved on the Italian precedents by inventing the 'travel mark' at a specially favourable exchange rate.

France, Switzerland, the U.S.S.R. and all the smaller countries were compelled to follow suit in one way or another.

It may be observed generally (a) that these reductions of fare (sometimes up to 70 per cent) went far beyond any 'railway' justification, (b) that they were for the most part political in object, a method of obtaining foreign exchange, hence the insistence on a minimum period of stay, and (c) that the net effect was a general cheapening of international travel whether undertaken for business, religion or pleasure.

Transmigrant Traffic

In 1925 Germany granted a 33½ per cent reduction to transmigrants travelling via German seaports. Great Britain protested under Article 323 of the Treaty of Versailles—but this Article had already lapsed and the protest was disregarded.

Dining and Sleeping Car Services

The history of the development of these services is, in effect, the history of the competition and ultimate agreement between the *Compagnie Internationale des Wagon Lits* and the *Mitropa Company*.

The *Compagnie* dates back to 1876, and until 1914 had practically a European monopoly, though this was in some degree disguised by the creation of subsidiary companies under national designations, such as the *Deutsche Speisewagen*. During the war Germany formed its own dining and sleeping car services, largely with vehicles seized from the *Compagnie*, and after the war transferred these services to the *Mitropa Company*, which, as its name suggests (short for *Mitteleuropa* = Central Europe), was in a part a propaganda enterprise. The *Compagnie* endeavoured to strengthen its position by increasing its capital from British sources, but the French interests in the *Compagnie* defeated this attempt, indeed, the relations of the different nationalities on the Board were difficult and stood in the way of strong action.

In the meantime, the *Mitropa* with a united Board and Government action continued to make progress outside Germany, and ultimately (April 1925) the two concerns came to a settlement which may be said to indicate the bargaining advantage held by the concentrated power of the *Reichsbahn*. The *Mitropa* obtained the right to run all international services originating or terminating in Germany, but this did not include any services to Paris, Brussels or Warsaw. All other services, including those which traversed Germany (e.g. between France and Poland) were allotted to the *Compagnie*.

The annexations of Austria and Czechoslovakia further strengthened the position of the *Mitropa*.

VI. EUROPE : PROBLEMS ARISING OUT OF THE FIRST WORLD WAR

RAILWAYS IN THE SETTLEMENT OF FRONTIERS

THE question of frontiers, generally, will be considered at some length in a later volume. Here it is proposed to treat it solely as it affects rail transport.

Frontier settlements after the war of 1914-18 necessarily had regard to other factors—ethnographical, strategic or traditional—more than to the configuration of the railway network. Moreover, the settlements had to be made in the shortest possible time.

Though in some cases better frontiers might have been drawn if railway factors had been taken into account, it is perhaps surprising how often they entered into the discussions and affected the decisions. The following examples may be quoted :

(a) *Hungary/Roumania* The three towns of Szatmar-Nemeti, Nagy Varad, and Arad are all predominantly Magyar. But since the only railway connecting the Roumanian provinces of North and South Transylvania ran through these towns, they were included in Roumania.

(b) *Roumania/Yugoslavia*. In this case, on the other hand, railway considerations were, perhaps unwisely, disregarded when dubious ethnographical arguments, put forward by Yugoslavia, were allowed to sever the important rail connection from Arad to the Danube at Bázias,

(c) *Czechoslovakia/Hungary*. Railway and port questions are closely interwoven. Bratislava (Pressburg) is the natural Danube port for Czechoslovakia, though only 18 per cent of its population is Czechoslovak. In consideration of its importance to Czech transport, and of the fact that the population of the adjoining country-side was Czechoslovak, the port was included in Czechoslovakia.

(d) *Austria/Czechoslovakia* Czechoslovak frontiers in Bohemia were for the most part the recognized frontiers of the old Kingdom of Bohemia. In two cases, however, they were extended solely to include sections of railway necessary to complete the Czech railway system.

(e) *Czechoslovakia/Poland* In this case the district of Teschen was involved, important industrially, but still more important from the point of view of transport. The two great double-track lines connecting the north and the south of Europe, and the south-east and west of Europe, intersect at Oderberg (Bohumín) in the Teschen.

The Poles, on general ethnic grounds, claimed the larger part of the district, and in particular the south eastern area which includes

the Jablunka railway linking Slovakia with Moravia and Bohemia. Nevertheless it was felt that these railways were vital to the economic life of Czechoslovakia, and they were accordingly allotted to her.

(f) *Austria/Italy/Yugoslavia* The Adriatic port of Trieste is the natural southward outlet for Czechoslovakia and Austria. Two main routes run northward from Trieste connecting the port: (1) by the Tauern railway and Salzburg to Bavaria and Northern Europe, and (2) by Ljubljana (Laibach) and Maribor to Vienna. Both these routes passed through a mountainous area, known as the Assling Triangle, whose population was undeniably Yugoslav. The ethnical considerations carried the day. The exports of Czechoslovakia and Austria had to pass over Yugoslav and Italian lines to their natural Mediterranean outlets.¹

At Fiume the problem was of a different character. Fiume is the natural Adriatic port of Yugoslavia and Hungary, but Fiume was Italian in its sympathies. Italy forced the position by seizing Fiume (the *d'Annunzio coup d'état*) in 1919. The matter was not settled until 1924, when Italy and Yugoslavia came to an agreement under which Italy kept Fiume, but allowed Yugoslavia the adjoining and inferior port of Susak. Hungarian claims do not appear to have been considered.

In 1938 or 1939 various frontier alterations were made by Hitlerite Germany, affecting Czechoslovakia, but these were not made with any idea of permanence, still less of convenience in transport. It may fairly be said that they were intended to cause trouble in transport, and otherwise, and to form an excuse for further German aggression.

THE RESTORATION OF THROUGH SERVICES AND TARIFFS AFTER THE FIRST WORLD WAR

The railway systems of Europe were left for the most part in a state of exhaustion by the war. New boundaries had caused dislocation, particularly in Eastern Europe, but even more important was the fact that both rolling stock and permanent way were suffering from inadequate maintenance. Nevertheless, international railway relations were restored fairly quickly in Western Europe. In eastern Europe, on the other hand, political disturbances of various kinds retarded progress for many years.

General

An outline of the general organization established for the formulation of principles applicable to transport as a whole will be given

¹ This question will be further dealt with in the final volume in this series.

elsewhere¹ The matter was taken up at a very early stage by the Paris Peace Conference which established the Ports, Waterways and Railways Commission It was the function of this Commission to formulate principles applicable to communications generally Their work was taken over by the Commission of Enquiry on Freedom of Communications and Transit, a body with both neutral and allied members, formed at Paris in anticipation of the creation of the League of Nations Finally, the League of Nations called together the International Conferences at Barcelona (1921) and at Geneva (1923) The Geneva Conference urged the development of international communications and requested the League Transit Organization to keep itself informed of the steps taken Colonel Mance was asked to report to the League's Rail Transport Committee, and presented his report in August 1923

After describing the general situation at the armistice, the relief work of the Communications Section of the Supreme Economic Council, the Porto Rosa Agreements (p 78), the formation of the R I C (p 19) and the U I C (p 11), he was able to report that immense progress had been made since 1919 In the conditions of traffic, and of the exchanges existing in 1923, through passenger tariffs were confined to the more important international trains, and through freight traffic (with through consignment note) was carried by virtue of a series of special agreements prescribing certain derogations from the Berne Convention These provisions fixed the portion of the charges to be collected from consignor, the portion to be liquidated at frontiers *en route*, and the portion to be collected from consignee The system was an attempt to minimize the risk of loss due to uncertainty of exchanges, but it indicated how heavily that uncertainty militated against a full resumption of international rail transport

In 1925, the League Transit Organization reported jointly with the International Chamber of Commerce in favour of an increase in the number of international tariffs based on the Berne Conventions

The Simplon Orient Express

In August 1919 the Simplon Orient Express was established by agreement between Great Britain, the Netherlands, Belgium, France, Switzerland, Italy, Yugoslavia, Roumania and Greece This was the first effort to recreate a real international service It linked Ostend, Calais, Boulogne, Paris, Lausanne and Milan with Constantinople, Bucharest and Athens, and the service was guaranteed a monopoly of traffic from Great Britain, the Netherlands, Belgium and France to points beyond Vienna in the direction of Belgrade However,

¹ See the final volume in this series

traffic grew, and in 1921 additional services were authorized Paris-Prague-Warsaw, Paris-Zurich-Vienna-Bucharest, and Holland/Belgium-Vienna-Bucharest

The traffic continued to increase, and in 1925 the monopoly lapsed. Competing services were established, notably from Ostend via Vienna to Constantinople

Relations between Germany and the West

The institution of the Harwich Zeebrugge train ferry (p. 37) brought up the importance of re-establishing the direct English-German goods tariff. Legal difficulties were serious, but they were ultimately overcome, and an agreement concerning goods traffic between Germany and England via Belgium came into force on 1 June 1934. An Anglo-Belgian agreement had been concluded previously and was extended to apply via the Netherlands, it was also to embrace traffic via the German-Dutch and German-Belgian frontiers to stations in Germany, and in Poland via Germany.

Austro-Hungarian Successor States (Czechoslovakia, Poland, Roumania, Yugoslavia) and their Neighbours

There was a series of agreements between various members of these groups showing that from the first they appreciated the importance of co-operation.

Poland/Roumania 29 October 1919 a convention based on the Berne Convention of 1890 and providing for through passenger and goods services. 1 July 1921 further provisions relative to accounting arrangements. July 1925 an agreement relating to additional frontier stations. 30 October 1929 a further agreement relating to frontier stations and operations at the frontier.¹

Italy/Yugoslavia 14 July 1924 a general railway convention based on the Berne Convention, adopting the R.I.C. and R.I.V. as applicable to through trains, regulating customs procedure, etc.² 12 August 1924 a further convention concerning the use of frontier stations.³ 20 July 1925 an agreement with regard to the international station at Fiume.⁴

Germany/Czechoslovakia/Austria/Hungary/Yugoslavia/Bulgaria/Greece/Turkey April 1925 a conference was held to settle conditions for through service (passengers and luggage) between Germany and Constantinople. The management was offered to Hungary, but refused, it was then offered to Germany.

¹ L.N.T.S. vol. CXXI p. 367

² L.N.T.S. vol. LXXXII p. 327

³ L.N.T.S., vol. LXXXII p. 423

⁴ L.N.T.S. vol. LXXXIII p. 33

Poland/Hungary 15 April 1926 a convention in regard to passenger traffic via Czechoslovakia or Czechoslovakia and Austria

Hungary/Yugoslavia 24 July 1926 general agreements based on the Geneva Convention and Statute of 1923 on the International Régime of Railways (see p. 123) adopting the CIM and CIV, RIV and RIC, also covering the régime of frontier stations¹

Hungary/Czechoslovakia 31 May 1927 a similar general agreement²

The Polish Corridor

Traffic across the Corridor was regulated by a Convention of 21 April 1921 between Danzig, Germany and Poland³. This differentiated 'privileged transit' from 'unprivileged'. 'Privileged' passengers travelled in trains reserved for the purpose and were to be for the most part exempt from passport and customs formalities. 'Privileged' goods were to be carried in complete trains. Disputes were to go to a Permanent Arbitration Tribunal at Danzig.

Poland undertook to keep her lines in repair and adequate for the traffic. Germany undertook to lend her locomotives for five years. Goods traffic was to be subject to the Berne Convention of 1890 as revised to 1906.

Further conventions, dealing for instance with express goods, were signed in 1927 and 1930.

Germany undertook to pay Poland in respect of the carriage of passengers and goods across the Corridor, but soon fell into arrears. There was continuous negotiation, and at the end of 1936, when the arrears were over 80 million zloty, and the monthly charges 7 million zloty, Germany undertook to pay 1.5 million zloty in cash and a possible further 1.7 million in goods. Poland at the same time made drastic reductions in the rates. Traffic was to be confined to the two shortest routes, instead of five routes as before. No proposal appears to have been made about the payment of the arrears.

Relations between Poland and the Baltic States

From the earliest days of the peace, Poland and Lithuania were engaged in an embittered frontier dispute. This not only closed the railways crossing the frontier against through traffic, but even stopped the floating of timber on the river Niemen. Polish-Lithuanian conferences ended in deadlock. In 1927 the League of Nations took a hand, but in vain. The Transit Conference of the League examined the matter and made recommendations, which were (unwillingly)

¹ LNTS vol. XCVIII p. 165

² LNTS vol. LXV p. 183

³ LNTS vol. XII p. 61

accepted by Poland, but rejected by Lithuania. The League then asked the Permanent Court of International Justice if any compulsion could be applied to Lithuania on the ground of international obligations, the Court, in October 1931, replied in the negative.

Finally, in 1938, Poland delivered an ultimatum to Lithuania, and as a result a convention of the usual kind concerning railway traffic was signed between the two countries on 25 May 1938.

In the meantime, Poland entered into arrangements (September 1926) with Latvia for the carriage of Polish traffic to Lithuania via Latvian territory, but not on through consignment notes. Even here the existence of frontier disputes between Poland and Latvia hindered the flow of traffic, and these disputes were not settled until February 1929.¹

Relations between U S S R and Central Europe

U S S R / Poland A series of conventions was concluded between the U S S R and Poland for regulating and developing their exchange traffic (April 1924, April 1925, October 1925, August 1926). Routes were defined and their number increased, through bookings arranged, time table conferences called, and the terms of the Berne Convention were in effect accepted for application. Provision was also made for the construction of rolling stock suitable for the break of gauge. Developments seem to have been smooth and continuous.

U S S R / the Baltic States / Germany Early in 1925 the U S S R, Estonia, Latvia, Lithuania and Germany entered into an agreement for the routing of Russian German traffic through the Baltic States named. The U S S R preferred this route to the Polish route. The traffic increased considerably, and in October 1925 a further convention was signed at Riga, which, in effect, applied to the traffic the terms of the Berne Convention.

On 12 October 1928 Germany and the U S S R agreed to establish through goods tariffs, with most favoured nation treatment.¹

U S S R / Roumania Passenger and goods traffic by rail between the two countries was suspended in 1918, and remained suspended for twenty years. In 1938 the reconstruction of bridges across the Danube enabled traffic to be resumed on the basis of a new agreement concluded in 1935.

Relations between Europe and the Far East via Siberia

On 16 December 1925 an agreement was signed establishing a through passenger and baggage service between Japan and Western Europe via Khabarovsk and Riga. The signatories were the French,

¹ L N T S vol CI p 75

² L N T S vol LIII p 125

German, Polish, Lithuanian, Latvian, Estonian and Soviet railways, Soviet maritime authorities, and a Japanese shipping company. The terms applied were those of the Berne Convention (C I V). (An international passenger and baggage tariff also operated between Great Britain and the Far East, to which certain British railways were party.) Owing to differences between the Chinese, Japanese and Russians the service passed over the longer route by Khabarovsk, and not over the Chinese Eastern Railway (Manchuria).

On 1 March 1932 a through freight service was established, passing in this case over the Chinese Eastern Railway. The terms applied were again those of the Berne Convention (C I M), and one through consignment note was used for rail sea-rail transport, to or from the interior of Japan.

The new route opened up active competition, at much reduced rates, with the all sea route via Suez, and has served mainly to facilitate trade between Germany, China and Japan.

THE GERMAN RAILWAYS IN THE PEACE SETTLEMENT

Provisions of the Treaty of Versailles

The Treaty of Versailles included, apart from its territorial provisions, a variety of articles affecting traffic and tariffs on the German railways, and on combined rail water routes.

Articles 321 and 365 provided for freedom of transit and equality of treatment for traffic between Allied countries and Germany or passing across Germany. Under Article 366 the parties undertook to renew the Berne Conventions, and Germany undertook to accept any revision of them for a period of five years. Under Articles 367 and 368 Germany undertook to help in the establishment of through services and accepted the obligation not to discriminate in favour of emigrant traffic to German ports.

For Articles 323 and 325 see p. 57.

Under Article 378 the whole of the above provisions concerning German railways were to expire at the end of five years, unless (a) the provisions were revised by the Council of the League, who were also at liberty to prolong the period of five years, or (b) reciprocity was granted by the Powers claiming the benefit established under any of these provisions. The Council took no action in the matter.

Under Articles 371 and 372 a Commission of Experts was appointed by the Allied and Associated Powers to decide (1) what amount of rolling stock Germany was to hand over for the equipment of the railways in ceded territory (this rolling stock, along with works, installations and stores in the ceded territories, was to be handed

over in good condition), and (2) what should be the special agreements as to the working of branch lines intersected by the new boundaries

Rhineland Railways

Article 43 of the Versailles Treaty prohibited the upkeep of all 'permanent work of mobilization' on the left bank of the Rhine. At the same time, Article 3 of the Rhineland Agreement (concluded 28 June 1919 between Belgium, the British Empire, France, the United States and Germany)¹ empowered the High Commissioner to issue ordinances for securing the maintenance, safety and requirements of the Allied and Associated forces. Under these provisions the German authorities were called upon to remove certain lines which were regarded as 'works of mobilization', and forbidden to construct certain other lines and works which they claimed to be solely of commercial importance. The French and British views tended to diverge, especially after the treaty of Locarno (1925), which in the British view made it impossible for the occupying Powers to enforce their interpretation of Article 43 upon the Germans. Finally, in 1929, France and Germany were left to settle the matter with one another, a number of tracks were removed, and various schemes for quadrupling tracks were to be left in abeyance for twelve years. During this period no new railways were to be carried across the Rhine between Maxau and the Dutch frontier.

Distribution of German Rolling Stock

The Commission of Experts (see p. 74) allocated about 10 per cent of Prussian-Hessian rolling stock (including locomotives) to be divided between the territories ceded to Belgium, Czechoslovakia, Danzig, Denmark, Poland and Memel respectively (Denmark, however, waived her rights). This was in addition to the 5,000 locomotives and 150,000 wagons surrendered under the armistice terms. The Commission finished its work in June 1922.

Reparations

From 1924 onwards the Reichsbahn was drawn into the reparations question. The Dawes Plan of that year constituted the Reichsbahn as a joint stock company administered by a managing board of eighteen directors, half of whom were to be appointed by a trustee appointed by the Reparation Commission, the other half by the German Government and the private holders of preference shares. Annual payments to be made by the German Government

¹ BFSP vol. CXII p. 219

ranged up to 660 million gold marks after the third year. The managing director was to be German, but there was to be a foreign resident Commissioner who would have special powers under the trustee.

The scheme was modified in 1929 by the Young Plan. The payments were to remain the same, and the independent character of the company was to be maintained, but foreign participation in the board of management ceased, the German Government were to guarantee the payments, to nominate the members of the 'Railway Council', and to confirm the appointment of the chairman, managing directors and other directors. The arrangement was not successful and was to have been replaced by a subsequent agreement, signed at Lausanne, which abolished the annual payment, before this could come into force, however, the German Government repudiated the whole of the Reparations Agreements.

Upper Silesia

This province, after a plebiscite, was divided between Poland and Germany. The Conference of Ambassadors established a joint Administration for the railways, regulated by the German Polish Convention of 15 May 1922 (Part V Titles VIII and IX). This Convention, which was for fifteen years only, set up a Joint Superior Committee consisting of one German and one Polish member, appointed by their Governments, and an Office Staff provided equally by the two Governments. The Joint Superior Committee administered the State Railways in the plebiscite area, and was supplemented by a German and a Polish directorate, responsible under it for the systems in German and Polish territory respectively (Art. 398). The Superior Committee dealt with the budget for the State Railways and with all that concerned traffic between the German and Polish systems—rules, tariffs, time tables, wagon distribution and maintenance, also with the compilation of traffic and operating statistics. Disputes were to go to an arbitrator, who, failing agreement, would be appointed by the Swiss Federal Railways. His decision could be taken before the Upper Silesian Joint Commission, a general arbitral body.

German and Polish goods wagons would form a park to be used jointly. If this park proved inadequate, Germany and Poland would lend the Upper Silesian Railways additional wagons in conformity with the RIV. The Convention specified the number of wagons to be supplied by Germany and Poland respectively. The repair works, all on German territory, were to work for both systems.

Germany and Poland negotiated fresh agreements to come into force on the expiry of the Convention (15 July 1937). As a result,

ten of the thirteen standard gauge exchange stations were maintained, but the joint frontier arrangements were severely restricted, the joint wagon park was dissolved, and considerable legal difficulties ensued. Generally speaking, the exchange arrangements were assimilated to those existing elsewhere on the German Polish frontier.

REORGANIZATION OF THE AUSTRO-HUNGARIAN SYSTEM

Provisions of the Peace Treaties

The break up of the Austro-Hungarian Empire dislocated the Imperial Railway System, and the Treaties of St. Germain and Trianon did little to amend this situation.

They contained provisions for giving Austria and Hungary freedom of access to the Adriatic, and for granting Czechoslovakia running powers to the Adriatic, also for international arbitration in cases of difference. But these were little more than pious aspirations. The railway system had been broken into fragments. The difficulty was to find means of re-establishing railway communications.

The economic objects of the pre-war system (Austrian or Hungarian) had been (a) the development of the north-south traffic, between the industrial districts of Bohemia, Moravia, Silesia and Galicia on the one hand and the agricultural districts of the south on the other (also the port of Trieste), and (b) the development of Vienna and Budapest as concentration points and entrepôts, for which purpose they were both singularly well placed.

The east-west routes were of secondary importance—first, because the traffic (other than international passenger traffic) was light, and second, because the Danube waterway could readily serve the heavy traffic, such as it was.

Yet the inevitable effect of the political break up was to split the north-south routes into two or, more often, three sections, whilst leaving the east-west routes more or less intact.

The economic effect was unfortunate, since the new Successor States had no interest in maintaining the traffic from north to south via Vienna and Budapest; they were inevitably more interested in using their section of the railways for home development.

The effect on the railways themselves was even more deplorable. To take two instances: the main route from the north to Vienna was cut into three sections, Polish, Czechoslovak and Austrian; the main south route from Vienna to Trieste was divided between Austria, Yugoslavia and Italy. Each of these sections had a different tariff, quoted in a different language and a different currency. But, still worse, new frontier stations had to be established, and this is a matter involving delicate negotiations, much patience and heavy

expenditure Austria alone had to arrange for fifteen new frontier stations, all of which, for geographical reasons, had to be on non-Austrian territory Hungary, which formerly employed twenty seven international stations mostly on Hungarian soil, now required forty nine, of which forty two were on foreign soil Czechoslovakia required thirty new international stations for her traffic with Austria and Hungary alone Neither the time, nor the good will, nor the funds were available for the task

Whilst the Austro Hungarian railway system was disintegrated by the peace treaties, the railway systems in the Successor States were chaotic and disconnected They had to be fused by the construction of new lines and the conversion of branch lines into main lines

Moreover, in all States alike the railways were paralysed by destruction, decay and lack of rolling-stock

The Porto Rosa Conference

The old Austro Hungarian *Eisenbahnbetriebs Reglement* disappeared with the Austro-Hungarian Empire, and there was nothing to take its place The old tariffs and conditions ceased to apply, freight had to be paid in advance, through tickets were no longer available, and the rolling stock position was chaotic In these circumstances a conference was called in November 1921 at Porto Rosa, at which the Successor States were represented along with British, French and United States delegates

The Conference drew up four agreements

- (1) establishing a temporary regime for the circulation of rolling stock ,
- (2) regarding mutual assistance in rolling stock and repairs ,
- (3) regarding the restitution of privately owned vehicles ,
- (4) regarding the regulation of international traffic

The Conference also adopted a number of recommendations on the standardization of railway tariffs and advocating the summoning of an international conference to study the general regulation of European transportation

Distribution of Rolling-Stock

The Distribution Machinery and Procedure The Treaty of St Germain (Art 318) and that of Trianon (Art 301) each provided for setting up a Commission of Experts to settle the distribution of Austro-Hungarian rolling-stock between the Successor States and Italy These articles were based, in intention, upon Article 371 in the Versailles Treaty, under which the distribution of German rolling stock was entrusted, in the case of each participating country,

to a Special Commission of three members. In those Commissions the Chairman was in fact an arbitrator between his two colleagues, his decision was final and was accepted. But in the case of Austria-Hungary the number of the members on the Commission was necessarily greater, and the chairman's vote had no decisive effect. It was an arbitrator that was needed rather than a chairman, and this oversight opened the way to endless trouble.

One Commission was established, in October 1919, with a British chairman and one delegate respectively from Czechoslovakia, Italy, Poland, Roumania, Yugoslavia, Austria and Hungary.

The Commission was in trouble from the first, Roumania maintained that there should be a separate Commission under each treaty. The British Treasury refused funds for carrying on the work of the Commission, and no agreement as to the basis for the provision of funds could be reached until 1922, when the Conference of Ambassadors settled that each country should pay in proportion to the share of rolling stock received, a settlement which would appear to leave the whole matter open until the Commission had finished its work. Difficulties continued, and in 1923 the Conference of Ambassadors abolished the office of impartial president and granted a right of appeal from the Commission to the Conference itself. Austria and Hungary objected, alleging that the Commission was becoming less and less impartial and that the Conference of Ambassadors, which was to be the Court of Appeal, included no representatives of Austria or Hungary. They urged that, failing an impartial president, the appeal should be to an impartial arbitration committee.

There were differences as to these representations on the Conference of Ambassadors, and in November 1925 the Conference set up a Technical Committee of their own composed of British, French and Italian members, whose function it should be to arbitrate on questions not within the competence of the Distribution Commission.

On 24 February 1928, after 181 sittings, the Distribution Commission informed the Conference that their work was finished and asked to be wound up. In June 1928 the Polish Government supported this request, but the Conference considered the proposal premature. It was not until August 1931 that the Distribution Commission was dissolved, all outstanding reparation questions having by that time been annulled. In looking back over this laborious and futile series of negotiations, it is difficult not to feel that with reasonable foresight and goodwill the matter could have been more speedily and very much more satisfactorily settled. As already indicated, an arbitrator was required, not a committee, and

it should have been his business to settle disputed points after a full hearing of the interested parties, if, however, a court of appeal from the arbitrator's decision was thought desirable, it should have been the Transit Organization of the League of Nations. The matters at issue were technical, not diplomatic, and an appeal to a Conference of Ambassadors seems wholly inappropriate.

The question of private wagons, and particularly of their repairs was handled by a special Committee appointed by the Conference of Ambassadors in 1920. This Committee, known as the C C M R. (Comite de Circulation du Materiel Roulant de l'Europe Centrale) in turn gave way to a Committee of Specialists, who finally disposed of the matter by publishing approved lists of private wagons in 1927, 1929 and 1931.

The Work of Distribution General The Distribution Commission had the responsibility for the distribution of about 73,000 wagons. The Austro-Hungarian wagon park alone consisted of 254,000 wagons. Of these, some had been destroyed or worn out in the war, some had been seized during the war as 'booty of war' by the Allied and Associated Powers, other wagons belonging to Allied and Associated Powers had been seized by the Central Powers, others again were private wagons used (or seized) for war purposes. No reliable lists were available, lists had therefore to be drawn up. Each of the Allied Powers was allowed to keep its 'war booty', but there was no definition of this term. Roumania had seized many Hungarian wagons long after the Armistice and claimed them as 'war booty'. These difficulties had to be met before the numbers of the distributable stock could be ascertained or the principles of distribution fixed. In the meantime, the only possible basis for wagon exchange was the 'wagon for wagon' principle. Even then difficulties arose as to wagon repair. No State wished to undertake heavy repairs to a wagon which might later be adjudged to another State. The number of wagons awaiting necessary repairs was formidable, and increased month by month.

In March 1924 the Distribution Commission reported to the Reparation Commission at Vienna on the position then reached. It was as follows:

(1) *Numbers of Locomotives, Carriages and Vans available for Distribution*

(a) Austrian Rolling Stock

Census of locomotives complete

Census of carriages and vans nearly complete

Census of wagons not yet dealt with

(b) Hungarian Rolling Stock

No census dealt with for locomotives, carriages or wagons

(2) *Principles of Distribution*

- Some of the States (Poland in particular) were coming to the conclusion that as little change as possible should be made in existing distribution

(3) *'War Booty'*

The special claims put forward by Italy, Roumania and Yugoslavia had not been adjudicated

A considerable advance was made by June 1924. The Commission had by that time formulated its decision in regard to ordinary standard-gauge rolling stock (Austrian and Hungarian) broadly, by letting each State keep what it had got subject to the transfer by Austria and Hungary of certain listed 'distribution' stock. 'Booty' stock could also be kept, but would be treated as the equivalent of 'distribution' stock, and claims for the transfer of 'distribution' stock modified accordingly. After this there only remained to be taken decisions about special types of rolling stock, and maintenance equipment. These were dealt with in December 1924 and November 1925 by twenty decisions. But all details were not cleared up until they were finally wiped off in the cancellation of all further reparations under the Reparation Agreements of 1930.

Arrears in Hungarian Deliveries and Hungarian Counter-Claims

There were special troubles over the Hungarian wagon park. 21 per cent of the park as existing in November 1918 was alleged to have disappeared. The Hungarians put this down to the chaotic conditions of the final *débâcle*, and to unacknowledged seizures of 'booty' stock by Italy, Roumania and Yugoslavia. Those States, on the other hand, claimed that the Hungarian records had been falsified.

The Distribution Commission, in September 1925, found against Hungary as regards 9 per cent of the stock (out of the 21 per cent alleged to be missing) and allotted 55 per cent of this proportion (5,650 wagons) to the five States: Czechoslovakia, Italy, Poland, Roumania and Yugoslavia.

Hungary objected, and in November 1925 the matter went to the Technical Committee set up by the Conference of Ambassadors, who again found against Hungary. Hungary being still recalcitrant, the Conference of Ambassadors decided that 60 per cent of the 5,650 wagons must be handed over by 31 December 1926 and the balance by 31 January 1927.

In February 1927 the Distribution Commission reported that only 1,082 out of 5,650 wagons had been delivered. Hungary gave various explanations and put in counter claims. The matter again came before the Conference of Ambassadors and their Technical Committee in 1927 and 1928, but without result. Both claims and

counter claims were extinguished by the Hague and Paris Reparation Agreements of 1930

'War Booty' and 'Armistice' Rolling-Stock. Italy and Yugoslavia alleged that certain wagons (Italy, 509, Yugoslavia, 102) which fell to them under the terms of the Armistice had been illegally removed by Austria and Hungary

In November 1925 the Technical Committee of the Conference of Ambassadors found against Austria and Hungary in respect of 80 per cent of these wagons. Some were returned, but questions of cost of transit and counter claims against Italy in respect of wagons seized at Fiume delayed the final settlement, until the whole dispute was extinguished by the Reparation Agreements (1930)

Private Wagons These wagons were broadly of three different classes

- (a) those belonging to private nationals of the Successor States,
- (b) those belonging to leasing companies,
- (c) those belonging to private railway companies

At the Porto Rosa Conference (1921) agreements were adopted by Italy and the Successor States in regard to each of these classes. They did not come within the purview of the Distribution Commission, nor could they be claimed as war booty or as forfeit under the Armistice. The execution of these agreements was therefore entrusted to the C C M R (see p 80)

The general object of the agreements being the restitution of the wagons to their owners, these last were called upon to submit lists of missing wagons, while on the other hand each State having private wagons on hand undertook to advise the foreign owners of such wagons that they were at their disposal awaiting instructions. If the car was in a condition to run, free transportation was to be given to its home station

It was hoped that the wagons concerned would be restored to their owners in 1922, but in fact the process was still incomplete in 1926, when a detailed memorandum by the Czechoslovak representative was presented to the Distribution Commission. The memorandum classified the vehicles as the property of

- (i) Nationals of the original Allied States
- (ii) Nationals of States or areas which had become Allied owing to the course of the war,
- (iii) Nationals of ex enemy countries

It also listed under seven heads the causes which might account for the non restitution of the wagons, but beyond a reference to the rights of the owners under the original Peace Treaties, and under

the Porto Rosa Agreements (which related only to the Successor States), it did not contain any very useful recommendations. In the meantime, the question of payment for transit of the empty wagons led to fresh difficulties. The memorandum was approved by the Distribution Commission and by the Conference of Ambassadors, but the position still remained unsatisfactory. The experience of one private wagon-owner, the Floridsdorfer Mineral Oil Factory, may be taken as typical :

Number of tank wagons claimed as owned before the war . 45

Of these 6 were at their disposal at home station ,

2 were restored to them ,

26 were retained as war booty by Roumania, Italy and Yugoslavia ,

11 were lost without trace.

Spare Parts and Maintenance Equipment The Distribution Commission, interpreting the Peace Treaties, in 1925 imposed on Austria and Hungary the obligation to surrender spare parts of vehicles and maintenance equipment. Austria and Hungary objected, and the question passed to and fro between the Conference of Ambassadors, their Technical Committee and the Distribution Commission without approaching any nearer to a solution. The obligations of Austria and Hungary were more clearly defined, but Austria refused compliance on principle, whilst Hungary and Yugoslavia in direct negotiation failed to agree (1928). Finally the dispute was extinguished by the Reparation Agreements of 1930.

Costs of Wagon Repairs undertaken by Austria Up to the coming into force of the Porto Rosa Agreements (31 December 1921), Austria had carried out the repairs of wagons belonging to the common park. In December 1927 she put forward a claim for a refund. No result was obtained, and the question ultimately lapsed under the Reparation Agreements of 1930.

The Sudbahn

This railway was constructed to connect Budapest and Vienna with the Adriatic ports of Trieste and Venice. It was built with foreign capital, three-quarters of which belonged to Allied, Associated and neutral countries. It originally lay wholly in Austrian territory, but when Italy recovered Lombardy and Venice in 1866, she agreed to pay a rent of 30 million gold francs until 1968 for the section of the railway then on Italian territory. In 1915 Italy ceased payment and has not resumed it.

The settlement of boundaries after the world war split the railway between four countries, Austria, Hungary, Italy and Yugoslavia, but

it still remained important to provide it with unified management of some kind. With this object two agreements were made on 29 March 1923, one between the four countries named,¹ and the other between the Sudbahn Company and the same four countries.²

The Company was to be managed by a Board of twenty nine members, two nominated by each of the four countries, four by the National Association of French Holders of Securities, and seventeen elected freely by the shareholders in general meeting.

Any State on paying a specified minimum rental could take over the operation of the lines in its territory, but the lines would still remain the company's property.

A Committee of State Delegates was to be appointed to look after the establishment of through rates, based on total distance, for passengers, baggage and goods, with specific responsibility for keeping local and through rates in reasonable harmony, and for negotiating through rates with adjoining railway Administrations.

Austria still remained subject to her Peace Treaty obligation to maintain the pre war régime of tariffs to Adriatic and Black Sea ports.

The general purpose of the agreement between the Sudbahn and the four States was to facilitate through traffic, and it deals with this under all its aspects in seventy one Articles.

In 1923 the finances of Austria were unsatisfactory, and their restoration was being undertaken by the League of Nations. Sir William Acworth, acting as expert railway adviser to the Austrian Government, expressed the view that the Sudbahn Agreements put unreasonable burdens on Austria.

- (1) The Sudbahn, as a whole, was less profitable than before the war.
- (2) The Austrian portion was the most expensive to work and the least profitable.
- (3) Austria, apart from making good its own deficit, would have to contribute heavily towards meeting the bonded indebtedness of the Company.
- (4) Austria had to pay the Sudbahn compensation for loss of traffic through Trieste, and 22½ per cent of the gross receipts from Austrian State Railway traffic over the Austrian section of the Sudbahn.
- (5) Austria had to compensate the pre war headquarters staff of the Sudbahn.

The League Commissioner General accordingly vetoed the Agreements. It was found that Italy had made a secret agreement with Austria, under which Italy would give Austria financial help in

¹ L N T S vol XXIII p 377

² L N T S vol XXIII p 255

return for exclusive preferential treatment on the Sudbahn. In the end Austria received some financial relief and the Sudbahn Agreements were ratified.

Local Lines Disputes arising from Changes of Frontiers

The Peace Treaties (St. Germain, Art. 320, Trianon, Art. 304) dealt with privately owned lines severed by the new frontiers. Such cases were to be the subject of agreement between the Company concerned and the State in whose territories they now found themselves. Any appeal lay to arbitrators designated by the League. In fact, there were various alternative, or successive, channels of appeal. Some cases proved very refractory, and were hardly settled at the outbreak of war in 1939. In general, when appeal was made to the League, the Council asked the Transit Committee for a report, the Transit Committee, or its Rail Transport Committee, appointed a Committee of Enquiry to see if direct negotiations could still prove effective. In many cases this result was achieved by friendly mediation. Failing this, the Council appointed arbitrators whose decision was binding. The Transit Committee were able to report that in 1935 practically all the cases brought to them had been settled.

The following cases may be noted:

1 *Boldva Valley Railway* A Hungarian concern with 3 kms in Czechoslovakia. Appeal to League against Czechoslovakia in 1927. Arbitrators appointed in 1929. Direct settlement a few months later. (This was the only dispute in which Czechoslovakia was engaged. General principles had been the subject of a Czecho-Hungarian agreement in 1927.¹)

2 *Sopron-Kőszeg Railway* Part in Hungary, part in Austria. Appeal to League against Austria in 1927. Arbitrators appointed September 1928. Award generally in favour of Austria issued June 1929.

3 *Sz. Lorenz-Slatina-Nasret Railway* Hungary/Yugoslavia. Appeal to League against Yugoslavia in 1933. Committee of Enquiry asked parties to make fresh endeavours to settle. Agreement made December 1935, but appeal not withdrawn until July 1938.

4 *South-East Hungary Railway (Delkeleti)* Hungary/Yugoslavia. Appeal to League against Yugoslavia 1929. Friendly settlement 1931.

5 *Dravavölgy Railway* Hungary/Yugoslavia. Appeal to League in 1930, followed by friendly agreement in 1931.

6 *Zeltweg-Wolfsberg-Unterdröblich-Wollan Railway* Austria/Yugoslavia. Appeal to League against Yugoslavia, July 1931. Yugoslavia disputed jurisdiction of League, pleading Hague Agreement of 1930.

¹ L.N.T.S., vol. LXV p. 175.

on Austrian Reparations Arbitrators appointed May 1933 Decision May 1934 against Yugoslavia Difficulties arose over payment of sums due by Yugoslavia, certain interests claiming to represent the Company applied for a rehearing, this claim was, however, disputed and the case went to the Austrian Courts Their decision was reported to the League Council in May 1937 The Company still desired to be heard by the League arbitrators, and arbitrators were appointed in September 1937 In December 1937, however, the Company withdrew their appeal, and the matter lapsed

7 *Radkersburg Luttenberg Railway* Austria/Yugoslavia Appeal against Yugoslavia in 1932 Yugoslavia adopted the same line of defence as in the previous case Legal Committee of League Transit Committee rejected their contentions, and arbitral award issued in January 1934

8 *Barcs Pakrac Railway* Austria/Yugoslavia Company appealed against Yugoslavia in 1932 League arbitrators decided in October 1934 against Yugoslavia, who were called on to pay forty-one annual payments and an annual royalty

9 *Hulas Bacsalmás Rygyicza Railway* } Roumania/Yugoslavia
10 *Zsebely Czakovar Boka Railway* }

Appeal to the League in 1930 Friendly settlement April 1931

11 *Torontal Railway* Roumania/Yugoslavia Appeal to League 1933, subsequently withdrawn in favour of friendly negotiations

12 *Arad Csanad Railway* Hungary/Roumania This was a dispute between the two Governments, arising from the fact that Roumania had pulled up the frontier connection In 1923 Hungary made an appeal to the Conference of Ambassadors, but withdrew it in favour of friendly negotiations In December 1925 Hungary appealed to the League under Article 304 of the Treaty of Trianon Direct negotiations between the two Governments were however resumed and a settlement reached in November 1926 The line was then divided between two companies, the frontier connection restored, and a fair division made of the rolling stock

13 *Szatmar Febergyarmat Railway* Hungary/Roumania This was a dead-end line terminating in Hungarian territory Roumania pulled up her section thus isolating the Hungarian section She claimed that the line could not pay for the frontier services required The Company appealed to the League under the Treaty of Trianon, but the League did not proceed

14 *Debreczen Hagyarad Railway* The circumstances here were broadly the same, the action taken and the result were similar

15 *Nagyiskanda Arad Railway* Hungary/Roumania The Company appealed to the League against Roumania in 1929, and in January 1931 the League Council appointed arbitrators The appeal

was abandoned in February 1931, when the Roumanian Government agreed to purchase the part of the railway on their territory. The Government declared that their action in making the agreement was an exceptional measure because the affair had been taken to the League under Article 304 of the Treaty of Trianon. The League Council withdrew the item from their agenda.

16 *Gyula Local Railways* Circumstances, procedure and settlement similar to No. 15.

17 *Lemberg (Lwów) Czernowitz Jassy Railway* This railway ran originally over Austrian and Roumanian territory. After the war the Austrian territory became Polish. The dispute was entirely financial, dealing with the obligations of Poland and Roumania to the bondholders and shareholders of the Company, both Austrian and British. The Reparation Commission first dealt with the matter and in December 1924 decided in favour of the bondholders under the Treaty of Trianon (Art. 203). Roumania, however, objected to making any payment to German, Austrian or Hungarian nationals, but agreed in July 1926 to give preferential treatment to British shareholders. Various offers were made, none of them acceptable, and the affair resolved itself into a dispute between shareholders and bondholders.

18 *United Temes and Somogy Railways* This railway company was formed in 1913 and was taken over by the Hungarian Government on terms of payment of interest on mortgage bonds with semi-annual drawings over fifty years. Under the Treaty of Trianon the line was divided between Hungary and Roumania. The Hungarian Government remained liable for their share of the debt (Trianon, Art. 186). But as the Reparation Commission were unable to decide in 1925 that this Article applied to the Roumanian share of the debt, the question of the Roumanian payments to the bondholders (through the Investment Registry) remained subject to negotiation. The negotiations, complicated by currency questions, were still proceeding in 1932, and it is not clear how they ended.

19 *Various local companies*, originally Hungarian, appealed to the Roumanian-Hungarian Mixed Arbitral Tribunal. They were all purchased by the Roumanian Government under agreements dated April 1932.

GREEK RAILWAYS

Salonica Ghevghebi Railway There were many points at issue between Greece and Yugoslavia. These were complicated by earlier Balkan wars and by the peculiar position of the *Compagnie d'Exploitation des Chemins de fer Orientaux* (Oriental Railways).

This company, originally Austrian, passed in 1890 under the

control of Austrian, German and Swiss banks. During the war of 1914-18 the Greeks and Serbs each took over their own section of the line, but it appears that soon afterwards a Yugoslav syndicate acquired the shares of the Company, and in 1923 the Yugoslav Government claimed operating rights into Salonika. The Greeks would not consent, and in October 1925 they arranged to pay off the bonds of the Yugoslav syndicate. At the same time the Oriental Railways renounced all claims in respect of the Salonika Ghevgheli Railway.

There remained, however, an unsettled dispute between the Greek and Yugoslav Governments as to traffic between Yugoslavia and Salonika. The two Governments in August 1926 entered into four conventions intended to dispose of this dispute, but later a revolution broke out in Greece, and the new Government repudiated the conventions.

Negotiations with the new Government were successfully concluded on 27 March 1929 by a Treaty of Friendship, this was accompanied by protocols relating, *inter alia*, to the port of Salonika, railway services to Salonika and shares in the Salonika Ghevgheli Railway. It was agreed in particular (1) that Greece should pay Yugoslavia twenty million French francs in respect of any claim the Yugoslav Government might have on the Salonika Ghevgheli Railway, (2) that Greece would improve the facilities for Yugoslav transit traffic via Salonika and would apply to it the terms of the Berne Convention of 1924, (3) that Yugoslav transit traffic should have special customs facilities and that these conditions should apply only to Yugoslav transit traffic, to the exclusion of traffic to and from other countries.

Salonika Monastir Railway This line, which is mainly in Greek territory, was at one time in the hands of German financiers, who worked it through a subsidiary of the Chemins de fer Orientaux. In 1912 the Serbs took over the section in Serb territory, and in 1915 Greece followed the Serbian example. In 1925 the Greek Government acquired the rights both of ownership and of operation. French bondholders, however, continued to hold a financial share in the line: their interest was allowed to fall into arrears, and difficulties arose. These were settled by two conventions on March 1932. The German Government also held certain shares in the railway. In this case, the Greek Government claimed that the shares should be surrendered under Article 298 of the Treaty of Versailles. The German Government contended that the article was inapplicable, and as far as is known the dispute was still undecided at the outbreak of war.

Dedeagatch-Svilengrad Railway In 1925 the Greek Government agreed to allow the Compagnie des Chemins de fer Orientaux to

continue operating this line. They tried to buy the Company out, but ultimately abandoned the attempt as part of the settlement in respect of Salonika-Ghevgheli. During the Second World War the German appointed Greek Government expropriated the Chemins-de-fer Orientaux, who are now contesting the matter in the Greek Civil Courts.

The main line between Turkey and Bulgaria passes for a short distance over Greek territory. Under Article 107 of the Treaty of Lausanne traffic passing over this section is to be free from frontier formalities or transit dues. Under the same article the Council of the League of Nations appointed a Commission to ensure the observance of this provision. By agreement between the Greek and Turkish Governments this Commission ceased operations in January 1931.

VII AFRICA

INTRODUCTION

IT is misleading to regard Africa as a unit, either from the transport point of view or, indeed, from any other point of view. It has no common history, social, political or industrial. Though it has reached a high degree of development in the north and in the south, there is no common interest between these two areas, and neither of them has taken much interest or played any part in the gradual development of the western area, the Niger and Congo Basins. At the present time the piecemeal development of the western coastal areas under the aegis of various more or less competing European Powers constitutes an artificial handicap to ultimate transport development, as an addition to the natural physical handicaps from which these areas suffer.

The physical features of Africa have always presented an obstacle to transport development. The high central tableland, the lack of navigable rivers, the shortage of coal, the scarcity of water suitable for boilers, all hinder modern transport, but perhaps more important than any of these is the prevalence of the tsetse fly, which has made transport by draught animals impossible over very wide areas, and thrown the country back on the system of native head portage, a system which is costly in every way and notably so in human lives.

Though navigable rivers are few, water power is said to be plentiful, and it is possible that the development of these resources may present opportunities for an extended use of electric power, particularly in the form of electric rail traction. For the present, however, such an advance has barely dawned as a possibility of the distant future.

INTERNATIONAL MACHINERY

There is no general international transport organization. Southern Africa has, however, felt the value of mutual discussion on transport questions. The Southern Africa Transport Conference met at Johannesburg in 1936, convened by the South African Government. *It was attended by delegates from fourteen territories, in which South African, French, Belgian and Portuguese representatives were included.*

The Conference set up two Commissions, one for land transport and the other for air transport. The South African Railways were asked to act as a permanent Secretariat.

The next meeting of the Conference was to be held at Lourenço Marques in 1940, but owing to the outbreak of the war it has not yet been held

TECHNICAL STANDARDIZATION

In 1927 the railway mileage in Africa was distributed between the various gauges as follows

4 ft 8½ in (standard)	10.3 per cent
3 ft 6 in	57.2
5 ft 3 7/8 in (metre)	21.7
2 ft 6½ in	4.8
2 ft	6.0
	<hr/> 100.0 per cent <hr/>

At that time the Crown Agents for the Colonies held that the question of uniformity of gauge in Africa was likely to become a matter of pressing necessity before 1940

In 1936 the Southern Africa Transport Conference held that the African gauge problem was not nearly so serious as that of South America or Australia. They agreed, however, that for Southern Africa, as an interrelated region, it was desirable to work towards a gauge of 3 ft 6 in.

The two views are in conflict, and it would appear that the view of the Transport Conference is founded upon a closer appreciation of the facts of the case. The development of air and road transport adds further weight to their opinion. The functions of the African railways are in fact so largely local, or at most regional, that the question of standardization of gauge is not likely to assume general importance for many years to come, if at all.

DEVELOPMENT OF INTERNATIONAL COMMUNICATIONS

In 1933 there were 71,838 miles of railway in Africa, the total had increased by 12,000 miles in the previous decade, but the growth was not evenly distributed. North Africa (Egypt and the Sudan, Algeria, Tunis and Morocco) showed little growth. On the other hand the areas represented on the Southern Africa Transport Conference had extended their railway mileage by 32 per cent—from 29,852 miles to 39,408 miles.

It may be said, generally, that apart from the South African area there has been no development of international communications.

Strategical considerations might point to the importance of east west trans-African lines, but such roundabout connections of this nature as have come into being owe their development to local considerations of a totally different character

Cape-to Cairo Railway

Cecil Rhodes dreamed of a Cape to-Cairo railway. He could not foresee the development of air travel for the carriage of long distance passengers, and in any event the through connection could have been of little service for the carriage of freight traffic. The fulfilment of the dream is probably more remote at the present date than at any time since Rhodes's day.

Actually, Imperial Airways covered the Cape to Cairo route in 1936 in less than seven days. At that date a passenger travelling by rail, lake steamer and river steamer could perhaps have accomplished the journey in forty days, and he would have covered 10,700 kilometres as against 9,000 kilometres by air. This through route is in fact of little value except for a limited volume of high class passenger travel, and this class of travel is better served by sea or air.

North West and West Africa

This territory is well developed along the seaboard, but there is no adequate connexion either by road or rail across the central desert area to north and east. It would seem that the main north-south and east west routes should cross in the neighbourhood of Lake Chad. It would be possible for the British to link up the east west route at this point. The French are more interested in routes from Dakar to the Niger, and from the Cameroons to Brazaville, after the first world war they began the construction of a line from the Mediterranean to the Niger, a project which had been under discussion since 1875, but so far they have made very little progress with the scheme. Short stretches of line appear to have been built at each end of the route. The Italians have sought to obtain access to Central Africa (Lake Chad) from Libya, but could not obtain the necessary territorial facilities from the French.

Speaking generally, these north west and west territories are capable of constituting an economic unit, but the diverse interests of the Governments concerned hinder the development of such a unity. The problem of continental cross-communication may one day be important, at present its significance is military rather than economic. It seems desirable that the Governments concerned should come together, if only to frame a common railway and

communications policy, and to minimize future difficulties in regard to gauge and standardization generally

OUTLETS FOR THE KATANGA MINERAL REGION

The development of the rich copper bearing Katanga region demanded convenient outlets from the southern part of the Belgian Congo to the sea. The route to Beira on the east coast of Africa was unsuitable, and the first connection projected was that with the west coast at Benguella (Lobito) in Portuguese Angola. In 1908 the Katanga Railway, the Bas Congo-Katanga Railway, and the Benguella Railway concluded a pooling agreement co-ordinating their construction plans and aiming at the division of their gross receipts on a mileage basis. Nevertheless, the through route was not completed until 1931.

The east coast route, however, asserted itself after the first world war, with Dar-es-Salaam as the port of shipment. In March 1921 Great Britain undertook to give freedom of transit and equality of treatment to Belgian traffic passing from the Congo area to Dar-es-Salaam.¹ Tariff facilities were also to be given, with combined rail and shipping tariffs on goods conveyed by Belgian ships using the ports of Dar-es-Salaam and Kigoma. It may be noted, however, that the route still involved the transshipment of goods at four points, and possible interruption of water transit during periods of drought.

In 1926 and 1927 Belgium and Portugal signed a similar agreement with regard to transit to the west coast port of Benguella and with provision, also, for the improvement of the port of Lobito and the completion of a through rail route to Katanga. The last gap in this route was closed in 1931. Under another agreement of 1927² an exchange of territory was made which enabled the Congo Railway system to effect a junction with the Katanga Lobito Railway, thus further strengthening the position of the west coast ports in competing for the Congo traffic as a whole. The Belgian and Portuguese Governments entered into very close mutual working arrangements as regards use of wagons, through rail and shipping tariffs, etc. In particular, the through rail connection puts the west coast ports in a dominant position *vis-à-vis* the east coast ports.

INTER TERRITORIAL ARRANGEMENTS OF THE SOUTH AFRICAN RAILWAYS

The Union Railways have working arrangements with all the

¹ L.N.T.S., vol. V, p. 319

² L.N.T.S., vol. LXXI, p. 449

railways of South Africa up to the Congo. These provide for through documents, exchange of rolling stock, inter railway accounts, etc. The following special points may be noted:

1. The harbours and railways of South West Africa became vested in the Railway Administration of the Union (though separate accounts are still maintained). This has made it possible to effect considerable reduction in rates and fares.

2. The Union system operates the railways in British Bechuanaland, and a Commission representing the two Rhodesias and Bechuanaland ensures that the lowest possible rates and fares are charged.

3. The Mashonaland Railway Company and the Rhodesia Railways under an agreement of January 1937 recognize the special rights of the Union Railways in regard to the ownership of certain sections of the line in British Bechuanaland.

SOUTH AFRICA MOZAMBIQUE

There has been a series of agreements between the Portuguese and South African authorities in regard to the use of the Lourenço Marques port and railways. These began with the Transvaal Mozambique convention of April 1909,¹ and concluded with conventions between the Union of South Africa and Portugal in 1928² and 1934. The crux of those conventions lay in the allocation of a certain proportion of traffic to Lourenço-Marques from a so-called 'competitive' area. This was not to fall below 50 per cent of the total sea borne goods traffic in certain classes, or rise above 55 per cent, if it passed these limits a readjustment of railway rates was to take place.

In 1928 the 'competitive' area was slightly modified and a number of railway clauses favourable to the Lourenço-Marques interests were introduced. In 1933 the Union sought to delete these clauses and to reduce the proportion to 45 per cent, probably in recognition of the growing competition of Durban. As a final compromise the clauses were omitted from the 1934 Convention³ but the principle was maintained, the new proportion was fixed at a minimum of 47 ½ per cent, and it was laid down that all matters not provided for in the Convention were to form the subject of a working agreement between the two railway Administrations.

RHODESIA-MOZAMBIQUE NYASALAND

Rhodesia is so placed geographically as to have potential

¹ B F S P vol CII p 110

² Foreign Office Treaty Series, No 9 (1930) Cmd 3495

³ Ibid No 4 (1936) Cmd 5085

outlets, eastward to the port of Beira, and southward to the Cape. The southward connection was the first to be undertaken, and successive sections of line from Kimberley via Vryburg (1890), Mafeking (1894), Palapye and Bulawayo (1897), and Salisbury (1902) were opened on the dates indicated.

The Beira route was slower to take shape. An Anglo-Portuguese Treaty of 1891 provided for the construction by the Mozambique Company of a railway from the Mozambique coast at Fontes Villa to the 'British Sphere'. This railway took gradual shape, it was extended from the coast to Umtali (1898) and thence to Salisbury (1902). In the meantime difficulties arose about port accommodation. Fontes Villa was unsuitable, and the port of Beira was selected for development. The Beira Railway Company and the Beira Junction Railway Company were formed, but though the line was extended to Beira, the accommodation there still remained inadequate. Fresh agreements were negotiated in the years 1922-6, and suitable extensions of the port accommodation were finally brought into use in 1929 and 1937.

In this way, Rhodesia has secured her outlet both to the east and south. Other developments have secured a northward outlet as well. The industrial developments of the Northern Territory led to the construction of a railway northward from Bulawayo to Wankie and the Zambesi Bridge (1904), then further north to Kalomo (1905), to Broken Hill (1906), finally the Rhodesia-Katanga Junction Railway Company continued the connection forward to the Congo border at Misunder (1909). By that date, the Rhodesian system was substantially complete. The companies operated with fair success until the great depression of 1930, at that date it became necessary to overhaul their financial conditions. A Conference was held at Cape Town in 1934 and under the so called 'Cape Agreement' more favourable conditions as regards standard revenue and permissible reserves were established.

The port of Beira is important not only as an outlet from Rhodesia, but also as the main outlet from the Shire Highlands and Nyasaland. The Shire Highlands Railway Company was formed in 1902 on the basis of a concession from the Nyasaland Government. The railway was constructed from Blantyre to Chiromo, and (in 1908) from Chiromo to Port Herald. Goods were conveyed thence to the seaboard by water transport, but the conditions were unsatisfactory, and in 1912 the Central Africa Railway Company obtained a concession from the Portuguese Government for a railway to the Zambesi and a bridge over that river. In 1919 the Trans Zambesi Railway Company was formed to carry the connection forward to Beira. This railway was opened for traffic in 1922, but the Zambesi

Bridge was not completed until 1935. From that date, however, the Shire Highlands and Nyasaland secured a satisfactory southern outlet over Portuguese territory. Meanwhile the line had been extended northward from Blantyre to Chipoka on Lake Nyasa. For the purpose of carrying out this scheme the present Nyasaland Railways Ltd was formed in 1930.

Another outlet from Nyasaland is at present under construction. A line running west from the port of Mozambique is being gradually pushed towards Lake Nyasa, in 1942 it reached Namutarara, about 250 miles from the coast.

ABYSSINIA

In 1894 Abyssinia granted a concession to French nationals for the construction of a line from the French port of Jibuti to Addis Ababa. The line was duly constructed and, armed with a monopoly, made handsome profits.

In 1906 Britain and Italy came to an agreement with France for equal treatment of all three nations on the Jibuti Railway and on any concession which might be granted to Britain or Italy.¹ As part of the agreement it was understood that Italy should have the right to develop any concessions that might be granted for railways northward from Addis Ababa, Britain for railways westward. The three agreed not to compete with one another.

In accordance with this agreement Britain agreed in 1925 to support an Italian railway from Eritrea in the direction of Addis Ababa, and Italy to support British interests connected with Lake Tana.² Railway questions entered into the abortive Hoare-Laval plan of 1935, and were the subject of negotiations between Italy and France after the conquest of Abyssinia. The negotiations failed, moreover, the French refused to hand over to the Italians the 8,500 shares held in the Jibuti Railway by the Negus. As a mark of dissatisfaction the Italians boycotted the railway, at great cost and inconvenience to themselves.

¹ B F S P, vol XCIX, p. 486.

² L N T S, vol L, p. 286.

VIII THE MIDDLE EAST

GENERAL

UNTIL the outbreak of the second world war railway communications in the Middle East were for the most part disconnected and local in character. International rail routes had been projected and their construction was, in some cases, slowly proceeding. But the primary economic need was for local inter communication, and secondarily for provision of connections with the seaboard as outlets for the production of each country. Turkey alone pursued a bold policy of developing her railway system on western lines. Otherwise the general picture was not unlike that presented by Africa (other than South Africa) and, as we shall see later, by South America. International rivalries, as in Africa, influenced and retarded railway developments. It may be noted, however, that with the exception of Southern Iraq the main lines are being built to standard gauge.

RAILWAYS IN TURKEY

Before the war of 1914-18 the Turkish railway system in Asia consisted chiefly (a) of the Anatolian railway from Haidar Pasha (on the Bosphorus) to Ankara (577 km) with a branch line from Eskisehir to Konya (445 km) (b) of the incomplete Baghdad railway from Konya to Aleppo, Nisibin and Baghdad (720 km out of 1698 km had been completed by July 1914), and (c) of certain British and French lines in western Turkey, radiating from Smyrna. There was also the *Hejaz railway, from Damascus to Medina* (1,302 km). This was controlled directly by the Ottoman Government. The other railways belonged to companies which had obtained concessions from the Government, the Anatolian and Baghdad railways, in particular, were almost entirely in the hands of the Deutsche Bank.

After the war of 1914-18 the Turkish Government embarked on a policy of acquiring all the railways. This policy has been vigorously pursued ever since, and the last stretch of privately owned line was acquired in 1942-3.¹ At the same time, the Government has been carrying out a heavy programme of railway construction. 6,722 km of line were being operated in 1939, of these, 3,015 km had been built since 1923. Perhaps the most important of these new lines, from the international point of view, apart from the Baghdad Railway, is the connection with the U S S R via Kayseri, Sivas, Erzerum

¹ League of Nations *Aperçu Mensuel des Evénements Importants dans le Domaine des Transports* April 1943

and Kars. The effectiveness of this line is limited by the fact that one section of it (Erzerum to Sarikamish) has been built to a narrow gauge (2 ft 5½ in). It is reported, however, that this section is now in process of conversion to standard gauge, which already prevails on nearly all other Turkish railways. The stretch from Sarikamish to the Russian border conforms to the Russian gauge of 5 ft. A line is being extended from Diyarbakir to Cizre on the Iraqi border, and has passed Bismul, where oil has been discovered. A line which will ultimately connect Turkey with Iran, passing by Lake Van, has been commenced.

BAGHDAD RAILWAY

The construction of the Baghdad Railway has been the subject of negotiation for over fifty years. In 1903 a concession was granted to the Anatolian Railway, and a section of 720 km. had been constructed by July 1914 (see p. 97). The concession was for ninety-nine years, and provided for the continuation of the railway beyond Baghdad to Basra and a point on the Persian Gulf. Great Britain had opposed the extension of the railway to the Persian Gulf, and in 1914 Germany, Great Britain and Turkey agreed to fix the terminus at Basra.

During the first world war work on the Baghdad Railway was continued on account of its strategic importance. At the end of the war the line from Konya to Nisibin (1,101 km.) had been completed, while on the Mesopotamian side a stretch of 135 km. was in operation.

After the war Germany was compelled to transfer German interests in the railway to the Reparation Commission (Versailles Treaty, Art. 260). The Commission thus became possessed of 13,510 shares out of 30,000, the rest were held

8,000 by a French group,
3,000 by the Anatolian Railway,
3,000 by the Turkish Government,
and 2,490 by various owners

This transfer was followed by prolonged disputes as to the ownership of the various shares and the rights of the owners, in the course of which the French and British interests were often in conflict. The Turkish Government, and to some extent the German ex-shareholders, appreciated the advantage of these differences. In any event, little practical progress was made until October 1932, when France and Turkey came to an agreement about the section of the railway on each side of the Turco-Syrian border. Conditions of operation, distribution of rolling stock, etc., were to be agreed

between the Administrations concerned, whilst both Governments announced their intention of working the system to the best advantage and of promoting its extension eastward.

The work of construction was resumed along the original route across North Syria to Mosul and thence along the west bank of the Tigris to Baghdad, where it meets the metre gauge of the Iraqi system. On the night of 17 July 1940 the first passenger train left Baghdad for Haidar Pasha. The trains now run through Ankara instead of through Konya. It has been agreed that the Turkish State Railways shall operate the railway as far east as the Iraqi frontier, while the section beyond the frontier is operated by the railways of Iraq.

Even before the completion of the railway, through trains ran from Haidar Pasha to Nisibin. With the completion of new Turkish lines to the Black Sea ports of Zonguldak (from Ankara) and Samsun (from Sivas) there are now direct rail connections between Baghdad and these ports.

HEJAZ RAILWAY

This railway was built, with religious funds, by the Sultan Abdul Hamid in the first decade of the present century. It extends from Damascus to Medina (1,302 km), with a gauge of 105 metres (3 ft 5 3/4 in). The construction of the line had for its ostensible object to facilitate pilgrim travel to Mecca, but it is probable that the Sultan also had the political and strategic importance of the railway in his mind. The first part of the line, from Damascus to Ma'an, was opened in 1904, and the last section, terminating at Medina, was finished in 1908. An extension to Mecca was contemplated, but was never carried out.

After the first world war a dispute arose as to the ownership of the railway, by arbitral award (April 1925) it was laid down that the ownership had passed to the States in which it was then situated, Syria, Palestine, Transjordan and the Hejaz. At that date the railway did not operate further south than Ma'an in Transjordan. The section in the Hejaz was (and still is) derelict. No section of the railway was paying its way.

The British and French Governments established an Advisory Council with Moslem members representing the four territories named and two others representing the Moslem world at large, but little progress was made. On behalf of the Government of the Hejaz, Ibn Saud claimed the whole railway. Conferences were held in 1928 and in 1935 without agreement being reached. Finally, in 1938, Great Britain agreed to contribute £30,000 to the reconditioning of the Hejaz section, if Ibn Saud would find the rest of the money.

required (about £300,000). Nothing was accomplished before the outbreak of the second world war, and the matter is still in abeyance. The line has no economic importance, its significance is now purely religious.

DEVELOPMENT OF INTERNATIONAL COMMUNICATIONS

The railways of the Asiatic Middle East form no connected international system, but national economic policies which developed after the first world war point to a more constructive policy. Turkey has begun construction on railways towards the Iraqi and Iranian frontiers. Iran has completed the construction of a trans Iranian line connecting the Caspian with the Persian Gulf. A physical connection between the Iranian and Iraqi systems still remains to be established, but Baghdad is connected to the Mediterranean via Mosul. A Baghdad Haifa line was surveyed in 1931, but failed to obtain the necessary financial support from the Governments concerned. Rail connections with India, whether through Afghanistan or Baluchistan, offer small prospect of success.

The second world war created a more urgent situation and brought marked changes. The recent construction of the standard gauge line between Tripoli and Haifa puts Cairo into direct touch with the Bosphorus. The proposed Baghdad Haifa line assumes a new strategic importance as an alternative or relief route to the Suez Canal. Iranian rail communications have been modernized and extended to convey supplies to Russia. Although oil is now conveyed very largely by pipe line, the future seems to open out favourable prospects of a wide extension of international rail transport in the Middle East. In this connexion attention may be drawn to the treaty¹ concluded between Iran and the U.S.S.R. at Teheran (27 August 1935), under which the two Governments undertook to grant each other most favoured nation treatment in the transport of passengers, luggage and goods by rail, land, water or air, also transport rates and conditions as favourable as to their own nationals. This treaty was valid only for three years and expired in June 1938. A new treaty was signed on 25th March 1940. Although ratifications of this treaty have, so far as is known, never been exchanged, the instrument entered into force provisionally from the date of signature.

IX THE FAR EAST

CHINA

RAILWAY development in China, as an international factor, began towards the close of the last century. At that time China, under an Imperial Government, was prepared to grant concessions to foreign capitalists to construct and manage her railways. These concessions were granted for specific periods of years. In 1912, however, China became a republic, and a new policy was inaugurated. The Chinese Republican Government brought the railways gradually under State ownership, but the foreign financiers obtained the right to provide the technical and financial experts to manage and operate the railways. In the case of new railways built after 1912, foreign loans were made to the Chinese Government for their construction, but it was as a rule left to China to construct and manage the railways with the help of approved foreign technicians. Later, and especially after the civil wars (1925 and onwards), the Chinese have to an increasing extent taken over the whole management and operation of their railways.

During the first period, that of the Imperial Government, Russian, British, French, German and Belgian interests obtained various concessions. To name the principal concessions only: in 1896 and 1898 the Russians obtained the right to build the Chinese Eastern Railway (the history of these concessions is given later in some detail on pp. 102-106). The British built the Tientsin Taku line, and extended this later (1896) to Peking and Mukden; they also built the Shanghai Nanking railway. The French and Belgians (1897) built the Peking Hankow line, and the Germans (1898) the Shantung Railway. In 1910 the French obtained a concession in Yunnan, which they retained until 1943.

During the second period, that of the Republic, and indeed from 1908 onwards, the policy followed has been that of making loans to the Chinese Government for railway construction. A group of banks, representing American, British, French, German, Japanese and Russian interests, agreed in 1912 to co-operate in future general loans to China.¹ After the first world war, German and Russian interests ceased to play a part, and in 1920 a new Consortium was formed in which American, British, French and Japanese financial interests participated. The Japanese, before agreeing to take part in the Consortium, stipulated that their special position in Manchuria should be recognized by the three other participants, and that the

¹ Chang Kia ngau *China's Struggle for Railroad Development* New York 1943 p 66

South Manchurian system in particular should be outside the sphere of the Consortium

The development, and to some extent the management, of the Chinese railways, in 1906 came under the supervision of the Chinese Ministry of Communications (later Ministry of Railways). The results, financially and technically, were at first (1906-25) not unsatisfactory, but since the outbreak of civil war in 1925 a steady deterioration has set in.

A return made in 1926 enumerates twenty four foreign loans issued between 1899 and 1923 and gives the following particulars in regard to them

Total sum issued	£44 730 000	
British share		£17 250 000
Still outstanding (1926)	£35 925 000	
British share		£12 500 000

In 1934 M. Monnet, who had carried out an investigation in contact with the League of Nations, found that the Chinese railways were indebted to the extent of \$1,000 million, of which \$250 million was in respect of arrears of one kind and another. He found also that during the not very favourable years 1925-32 the annual net cash earnings of the railways had been \$25 million, but in 1934 payments of \$18 million only were being made, of which one-third was in respect of amortization.

The operating ratio had risen from 54 per cent over the period 1920-4 to 68 per cent over the period 1928-32. This was in part due to the deterioration of the property, but still more to the increase in the number of people employed, which was out of all relation to the volume of traffic carried. The Japanese policy of provoking 'incidents' has also seriously hampered management. M. Monnet estimated that if they were properly reorganized the railways could be placed upon an economic footing, but they would need large sums to be spent upon repairs to track, workshops and rolling stock (\$67 million) and upon new construction (\$60 million). The continuance of civil war, followed by the outbreak of the war with Japan, has prevented any such scheme from being realized.

MANCHURIA

The first railway to be constructed in Manchuria was an extension of the Peking Shanhaikwan Railway north-eastwards from the Great Wall to Mukden (419 km). The construction of this railway (1896) was due to British enterprise, but the railway soon became a Chinese Government railway.

About the same time, as has been seen, Russia obtained concessions at the other end of Manchuria. The Chinese Eastern Railway Com

pany was founded in 1896 by the Russo Chinese Bank (later called the Russo-Asiatic Bank), a concern in which Russian, French and Chinese capital was engaged. A great chord line was constructed across the full breadth of Manchuria from Chita in Siberia to Vladivostok (1,480 km on Manchurian territory), together with a connecting line from Harbin on the chord line, through Changchun (Hsinking) and Mukden to Port Arthur and Dairen. These lines were built to the Russian gauge and had no physical connection with the standard gauge railway from Shanhaikwan to Mukden. The whole system, known as the Chinese Eastern Railway, was opened in sections between May 1903 and July 1905, and the initiative throughout was purely Russian. The object, in the first instance, was to shorten the route of the trans-Siberian Railway to Vladivostok, in the second instance, to gain access to ice-free ports at Port Arthur and Dairen (Dalny). The railway served as an instrument of Russian penetration into Manchuria, and it was a contributory cause of the Russo-Japanese War of 1904-5.

After the Russo Japanese War the system was split in two. The northern half continued to be known as the Chinese Eastern, whilst the southern half became the South Manchuria Railway. It will be most convenient to treat the histories of these two sections separately and to begin with the South Manchuria Railway.

The South Manchuria Railway

After the Russo-Japanese War, Russia ceded to Japan her rights in the Chinese Eastern system south of Changshun (Hsinking). This cession was confirmed by a Sino Japanese agreement of December 1905. For the operation of this line the South Manchuria Railway was formed under Imperial Ordinance of June 1906. The South Manchuria Railway was in fact a large industrial combine with a harbour at Dairen (Dalny), coal mines, power stations and other non railway activities. The railway was converted to standard gauge, but there was still no physical connexion with the Peking Mukden line at Mukden.

From the outset the Japanese policy was to use the railway for the development of Southern Manchuria, and to feed their port and shipping at Dairen. They did not extend the railway, which consisted solely of the main line from Changchun (Hsinking) via Mukden to Dairen and a second line from Mukden to the port of Antung, but they appear to have looked at first for Chinese co-operation. The task of building feeder railways was accordingly left to the Chinese, the Japanese advanced the money on loan, but the terms were nominal, the railways seldom paid their way, and the Chinese seldom paid either interest or sinking fund. In course of time feeder

lines were constructed, under Chinese management, to outlying points, such as Hailung, Kirin, Tungliao, Taonan, and the port of Newchwang at the north west base of the Dairen peninsula was connected with the Peking-Mukden line

If there ever were hopes of Sino-Japanese co-operation these were soon dashed. The Chinese could not accept the dominance of a Japanese organization, such as the South Manchuria Railway, in their territory. They set themselves, from 1925 onwards, to build lines of their own, without Japanese cash or co operation, and to link these into a system competitive with the South Manchuria Railway. Their efforts, owing to the weakness of the central Chinese Government, were ill combined and ill directed, but were enough to alarm the Japanese. The discussions and negotiations which followed were complicated and prolonged, it is not necessary to follow them here, and it must be enough to say that though there were elements in both countries which hoped for accommodation, Chinese national feeling was at stake on the one side, while, on the other, the Japanese military party steadily worked for a rupture.

In the last stage before the rupture the Chinese were working to divert traffic from the South Manchuria Railway to the Chinese system of competitive lines, which covered nearly 1,000 km, and to divert export traffic to the port of Newchwang, or to a new port, developed by themselves, at Hulutao, nearer to the frontier of China proper. The Chinese competition was favoured by lower rates, due to currency conditions, and a large volume of traffic was diverted, notably from Dairen to Newchwang and Hulutao. The Japanese did their utmost to maintain the Port of Dairen, which had been hard hit by the trade depression of 1929 and later years, but they had also to fear the competition of Vladivostok for traffic from Central Manchuria. Accordingly they turned their attention to the establishment of a port on the Korean coast at Rashin near the Siberian frontier, and to the utilization or construction of connecting lines from Changchun to Rashin by way of Kirin and Tunhua. The completion of this route would have dealt a severe blow to Chinese ambitions, but it was not completed when the final breach between Japan and China took place.

On 1 March 1932 Japan proclaimed the independence of Manchukuo. The South Manchuria organization was charged with the administration of all the railway lines south of Changchun, whether built by Japanese or Chinese capital, and has welded them into a connected system, the Japanese have also completed the connection to the port of Rashin in Korea, and they have developed Dairen and Rashin as the principal centres for the export and import traffic of the new State.

Chinese Eastern Railway

The northern section of the old Chinese Eastern Railway, the chord line and the branch from Harbin to Changchun (Hsinking) remained in Russian hands after the Russo-Japanese War. In 1909 a proposal was made by the United States to enable China to redeem the railway and have it administered by an international commission, but this proposal was opposed by Russia and Japan, and was not supported by France or Great Britain. It was accordingly dropped.

After the war of 1914-18 and the Russian Revolution, the line came, nominally, under Allied control. In fact, China administered the railway until 1924, when the Chinese Government recognized the Soviet Government and entered into an agreement with them. The agreement pronounced the railway to be a purely commercial enterprise, and declared that its future was to be decided by China and the U S S R to the exclusion of any third party. The direction was to be entrusted to a Board of five Chinese and five U S S R directors, and the management was to be equally divided between the two countries.

Japan reasserted her claims and continued to promote the expansion of railways in South Manchuria. Competition arose between the two, the Japanese system used the standard gauge and the port of Dairen, the Chinese Eastern Railway used the Russian gauge and the port of Vladivostok. The Chinese Eastern was, in fact, isolated by its gauge, and the competition developed in favour of Japan. In this conflict, Chinese nationalism was also engaged in opposition to Russian influences in North Manchuria. Disputes broke out, 'incidents' occurred in 1926 and again in 1929. In the latter year, Chang Tso lin, temporarily in control in Manchuria, turned out the Russian managers and replaced them by Chinese, in defiance of the treaty of 1924. War seemed imminent, but an agreement reached in December 1929 at Khabarovsk restored the operation of the treaty.

Fresh trouble arose upon the creation of the Manchukuo State by Japan. The Japanese set themselves to oust the Russians from their share of the railway, and in due course they succeeded. By agreement of March 1935 Russia sold her rights in the Chinese Eastern for 140 million yen, and all the Russian staff were withdrawn. The Chinese protested that the Soviet had no right to enter on such an agreement, but the railway fell wholly into Japanese hands. It has been converted to standard gauge on Manchukuo territory, that is, from Manchuria on the western frontier to Suifenho on the eastern (1,480 km) and south to Changchun.

The Trans Siberian Railway Service is no longer running, and it is understood that a length of line near the frontier at Suifenho

has been taken up. A new trans Siberian railway further removed from the Japanese sphere of influence is under construction. It is planned to reach the Pacific opposite the island of Sakhalin. (Information up to November 1943.)

THE CHINA-BURMA CONNECTION

Schemes for linking China with Burma by rail have been under consideration for nearly fifty years. The physical difficulties are very great and the financial problem has proved insoluble. The last proposal in 1938 was for a Burma Yunnan Szechuan railway. The length of line would have been approximately 1,600 km., and the route proposed was Lashio-Kunlong-Kunming Suifu, and thence by the existing lines to Chungking. To the Chinese this constituted their last hope of a rail connection with the outside world. The French Government was not unfavourable, seeing in the proposition a possibility of extending their Haiphong Kunming railway to Chungking, and they agreed to guarantee credits for the Kunming Suifu section. Nevertheless, the Sino French negotiations ultimately broke down over the question of security. Some construction work was done, but was interrupted by the Japanese occupation of Burma. No progress was made in regard to the Lashio Kunlong Kunming section.

X AMERICA

PAN-AMERICAN DEVELOPMENTS

THE Pan-American Conference met first in 1889-90 and set up an Inter Continental Railway Commission to survey routes for a Pan-American Railway. Eight conferences have been held and have passed resolutions, but the Pan-American Railway is still unrealized, and with the advent of the aeroplane it seems likely to remain no more than a pious aspiration.

In 1935 the Pan-American Commercial Conference (Buenos Aires) took up the question of the unification of the laws and regulations concerning railway transport, and with this object in view recommended the formation of national and international committees. It does not appear that any further progress has been made.

NORTH AMERICA

The development of the railway system in the United States and Canada is too well known to need detailed reference here. The railways of the United States have grown up in an atmosphere of private enterprise and fierce competition which has certainly provided an ample mileage and equipment to meet the public demand for transport, but has also on more than one occasion shaken the whole structure to its foundation. The crisis of 1930-5 was such an occasion, and although since that date the railways have regained a moderate degree of prosperity, they now find themselves face to face with growing competition from the air and from road transport. Nevertheless, they have profited from their disastrous experiences to learn the lesson of co-operation both nationally and internationally. The period of embittered rate wars has now given place to a period of increasing harmony and mutual agreement. In particular, Canadian and United States railways work well together, in spite of the inevitable competition entailed by their geographical relationship. The Interstate Commerce Commission (U.S.A.) and the Canadian Board of Commissioners, which are the governmental rate fixing authorities, cultivate close and friendly relations with each other.

INTERNATIONAL ORGANIZATION

There is no inter-governmental railway organization, but the inter-administrational organization known as the Association of American Railroads (A.A.R.) plays a very important part, including

as it does all the principal railroads in Canada, the United States and Mexico

The Association itself is comparatively new, having been formed in 1934 by the merger of the American Railway Association, the Association of Railway Executives, the Railway Accounting Officers' Association, the Railway Treasury Officers' Association, the Bureau of Railway Economics, and other organizations. Most of these organizations in turn represent amalgamations going back to the formation of such bodies as the Master Car Builders' Association in 1867, the Time Conventions formed in 1872, and the Railway Accounting Officers' Association in 1888. The broad minded intelligence which brought all these long established, separate bodies into one co-ordinated organization within the last ten years deserves special observation. It may be particularly noted that in the matter of exchange of freight cars the A A R not only regulates the terms of the exchange, but through its appropriate committees directs the daily flow of freight cars, and marshals fleets of cars to meet peak demands, such as the movement of a heavy crop, without regard to the individual ownership of the wagons themselves, but subject always to the appropriate payments for hire, repairs, etc. The precedent may be considered to have its lesson for European application.

It is interesting to note, however, that in certain other directions the European railways, in spite of the greater diversity of nationalities and languages, have carried co-operation further than it has yet gone in America. There is no organization in America comparable with the European Time Table and Goods Train Time-Table conferences, nor is there any such body as the B C C for the division and distribution of receipts.

STRUCTURE OF THE AMERICAN ASSOCIATION OF RAILROADS

The Association is organized in four departments

- (1) Operations and Maintenance,
- (2) Law,
- (3) Traffic,
- (4) Finance, Accounting, Taxation and Valuation

Each of these is again subdivided into separate Divisions, Sections, Bureaux and Special Committees, and these have their headquarters in New York, Chicago or Washington as convenience may dictate. As an indication of the comprehensive nature of the organization it may be well to deal with each department in greater detail.

1 Operations and Maintenance Department

- (a) *Operating Transportation Division* (Hdqrs, Chicago)

This is organized in eight Sections as follows

Operating Section (New York), organized 1884, prepares, revises and interprets standard codes for train operations, block signals and interlocking

Transportation Section (Chicago), deals with rules and regulations governing car service, demurrage and storage, issues Official Railway Equipment Register covering nearly two million cars used in interchange service

Freight Station Section (Chicago), organized 1888, deals with freight station working and with questions of special interest to freight agents, has local committees in every large city

Medical and Surgical Section (New York), organized 1920, deals with matters of health, physical standards and periodical examinations of staff

Protective Section (New York), organized 1919, deals with police protection of passengers, freight, and property, has reduced theft of railroad shipments from ten million dollars in 1921 to one half million dollars in 1938

Safety Section (New York), organized 1921, organizes educational, preventive, and statistical methods for railroad safety, e g concerning grade crossings and trespassers

Telegraph and Telephone Section (New York), organized 1882, deals with standards for telephone and telegraph equipment, operating practices, and improvement of methods

Fire Protection and Insurance Section (New York), organized 1913, deals with methods of fire prevention, publishes a handbook and issues information and instructions

(b) *Engineering Division* (Hdqrs, Chicago)

This is organized in three Sections as follows

Construction and Maintenance Section (Chicago), organized 1919 This section carries on its work through the technical committees of the American Railway Engineering Association, which was organized in 1899 It deals with standards, and practices relating to design, construction and maintenance of permanent way and structures

Electrical Section (Chicago), organized 1906, deals with design, installation and use of electrical apparatus of all kinds, including illumination, traction and heating

Signal Section (New York), deals with standards of railway signalling apparatus and practice Began operations as the Railway Signalling Club, 1895

(c) *Mechanical Division* (Hdqrs, Chicago)

Began as the Master Car Builders (1867) and the American Railway Master Mechanics Association (1868) It deals with problems

affecting the design, building, maintenance and repair of railroad rolling stock and mechanical equipment generally. It experiments with new designs and materials, and carries out continuous tests and research at its laboratory at Purdue University, under the direction of its own research engineer. It is responsible for mandatory rules about the loading of cars, the maintenance of air brakes, and similar questions, and it issues a series of manuals of standard and recommended practice on the subjects with which it deals. Its work on standardization of constructional details has been extremely effective in reducing great variety of types to uniformity (see p. 134).

The Division maintains a Mechanical Inspection Department and an Arbitration Committee.

It has recently (1937) established an *Electrical Section*, which deals with problems involved in the use of electricity on railroad equipment.

(d) *Purchases and Stores Division* (Hdqs., New York)

Originally organized in 1904. Its name sufficiently indicates the questions with which it deals. In co-operation with the Engineering and Mechanical Divisions it has carried through most useful work in the simplification and standardization of stores such as rivets, copper ferrules and tubing, steel boiler sheets, etc., and further work of the same kind is proceeding.

(e) *Freight Claim Division* (Hdqs., Chicago)

Originally organized in 1892. It maintains travelling representatives all over the United States. It publishes a code of Principles and Practices affecting the settlement of freight claims, and works in close co-operation with traders both for the settlement and the prevention of freight claims. In furtherance of this policy it has promoted the 'Perfect Shipping and Careful Handling' movement initiated in recent years by the Shippers' Advisory Boards.

(f) *Motor Transport Division*

Organized in 1928 as a clearing house for information in regard to road motor services conducted by railways.

(g) *Car Service Division* (Hdqs., Washington)

Was organized in 1917. The division undertakes all the obvious duties connected with the flow of freight cars from one railroad to another, the observance of the Car Service Rules, etc. It also takes the responsibility for meeting special demands, heavy crops, emergencies, etc. It co-operates with the Interstate Commerce Commission in all car service matters. It is responsible for anticipating car loading requirements and maintaining contact with shippers.

The formation of Regional Shippers Advisory Boards (1922-3) marked a great advance in this direction. These are voluntary

organizations of shippers, railway representatives are encouraged to attend their meetings, but are not members. There are thirteen of them covering the whole of the United States, correlated by a National Association, formed in 1937. These bodies, in general, meet quarterly and forecast car requirements for the following quarter. The Car Service Division of the Railroad Association combines and issues these forecasts, which have become important as a business barometer. It also issues weekly statements of cars loaded. The general result has been a marked improvement in car supply.

Besides the seven divisions enumerated above, the Operations and Maintenance Department includes two Bureaux and two Special Committees. The Bureaux are

(a) *Freight Container Bureau* (1921) with headquarters at New York and service offices at Jacksonville, Harlingen (Texas), San Francisco and Seattle. It deals with specifications for containers, loading rules, tariffs, etc., and co-operates with shippers and receivers of freight in devising improved packing or improved types of container for particular commodities.

(b) *Bureau for the Safe Transportation of Explosives and other Dangerous Articles* (1906), with headquarters at New York. It makes inspection at works for the manufacture of explosives, etc., conducts investigations into mishaps, formulates rules, etc. It maintains a chemical laboratory (South Amboy, New Jersey) and co-operates with shippers all over the United States and Canada. Its operations have ensured a very high degree of safety. In 1938, 500 million pounds of dangerous explosives were handled without a single accident or casualty.

The two Special Committees are

(a) *Committee on Automatic Train Control and Signals* (1921). This Committee co-operates with the Interstate Commerce Commission in investigations and tests, also in the application of the Signal Inspection Act.

(b) *Joint Committee on Grade Crossing Protection* (1930). It co-operates with Governmental and other public authorities in order to standardize and improve safety measures at level crossings.

Both these Special Committees have their headquarters at Washington.

2. Law Department

This department deals with questions of law and legislation. It represents the railroads as a whole before the Interstate Commerce Commission, and before committees of Congress. It also circulates

information on legal matters affecting the railroads. It includes one division known as the Patent Division, which deals with matters of patent law and the common use by all railroads of useful patented devices. The headquarters of the department are at Washington.

3 Traffic Department

This branch has its headquarters at Washington, and deals with all questions affecting railway rates and tariffs, routing, publication and simplification of tariffs, etc.

It co-operates with traders organizations and with the Interstate Commerce Commission on a variety of questions. In particular, it has a permanent Tariff Simplification Committee, and a special committee studying the simplification of freight classification, in co-operation with the United States Department of Commerce it has adopted a simplified form of shippers' manifests for import and export traffic.

4 Finance, Accounting, Taxation and Valuation Department

This department is organized in three Divisions, all with headquarters at Washington.

(a) *Accounting Division*

This began in 1888 as the Association of American Railway Accounting Officers. It issues mandatory rules on inter railway accounting, and maintains committees for arbitration and appeal on disputed questions. It also issues lists of 'recommended practices' on matters of internal accounting, with the intention of promoting simplicity and uniformity. It co-operates on these questions and on statistical requirements with the Interstate Commerce Commission.

(b) *Treasury Division*

This Division, which was organized in 1907, endeavours to establish uniform rules in regard to methods of making and receiving payments, collecting charges, banking arrangements, etc. It is organized in seven territorial groups.

(c) *Valuation Division*

This was originally organized in connection with the Valuation Act of 1913, which provided for the valuation of all railroad property. It now co-operates with the Bureau of Valuation of the Interstate Commerce Commission in keeping the inventory and valuation up to date.

Finally, the research and publishing activities of the Association deserve mention.

The Bureau of Railway Economics (1910), with headquarters at Washington, collects facts and statistics, carries on research, and issues statistical surveys covering the whole field of transportation.

economics. These have great authority in Government, business and educational circles. The Bureau has a library of 200,000 volumes at Washington. This is open to the public, its reference division holds itself ready to supply information in regard to transportation questions generally.

Competitive Transportation Research (1934) This Division is attached to the office of the President of the Association at Washington, and functions under the direction of the Economist of the Association. It collects information and studies problems connected with competitive conditions on roads, railways, waterways and airways.

Public Relations The task of presenting to the public the facts about the functions and activities of the railroads is one of such importance that it is entrusted to the President of the Association himself, acting through his own office in co-operation with the individual railroads.

Publications The Association has issued a very large number of publications, ranging from pamphlets up to the most elaborate technical productions. Most of these are made available to the public, either for sale or by free distribution.

It has also issued a great variety of Standard Codes and Manuals of Recommended Practice, covering every aspect of railway construction, operation, accounting, etc. The principal railways of Canada and Mexico adhere as a general rule to these codes and recommendations.

Generally, the Association of American Railroads performs for the North American continent and some 300,000 miles of line what the V M E V did in Central Europe—or all the European organizations together throughout the whole of Europe. But the A A R Regulations have no binding force, and in this they are unlike some of the regulations issued by the European organizations.

TECHNICAL STANDARDIZATION

The standard 4 ft 8½ in gauge is common to almost all Canadian and United States railways and to the main lines of the National Railways of Mexico.

The over all gauge is not so uniform. Thus engines on western United States lines are built to a more liberal clearance limit than on lines east of Chicago. There are also varying weight limits, for instance, many United States locomotives are too heavy for Mexican lines, and particular bridges may impose local limitations.

The standardization of wagons has gone a good deal further than the standardization of locomotives. The A A R has developed

standard box-cars of 40 ft 6 in and 50 ft 6 in length Canadian railways are working towards the 40 ft 6 in standard But many other varieties are still to be found

INTERNATIONAL EXCHANGE OF ROLLING-STOCK

In normal times cars move freely over the North American continent on the basis of a *per diem* charge (in general, \$1 00 per day) and certain accepted Car Service Rules, for instance, Canadian National Railway wagons pass with newsprint from Quebec to Mexico There is no railway pool of wagons

In war time greater freedom is allowed, e.g. as to the return loading of privately owned cars, at the same time it has been found necessary to control more closely the exchange with Mexico owing to the accumulation of wagons south of the Mexican border Traffic from Mexico northbound to the United States increased by over 120 per cent between the years 1941 and 1943, and nearly 60 per cent of this traffic ranked as strategic material The situation called for urgent action, and, by agreement between the two Governments, special steps have been taken at United States expense to assist the Mexican railways in the handling of war time traffic, the speeding up of car repairs, and other similar operations The results have been satisfactory to all parties

Steps are also being taken to improve the exchange of traffic with the narrow gauge Central American railways

OTHER INTERNATIONAL ARRANGEMENTS

International Carriage of Goods and Passengers

Rules for the handling of inter line freight claims are common to the United States and Canada, being laid down by the A A R For instance, claims must be made to the carriers within four months of the date of delivery There are, however, minor differences, e.g. as to the time limit for overcharge claims Waybills, whether issued in Canada or the United States, are accepted for through movement

There are no inter line freight claim settlements or through inter line freight arrangements with Mexican lines

International Time Tables

Time tables, through running schedules, etc., are arranged between individual companies, or at most by regional Passenger (or Freight) Associations

International Accounting

Accounts between United States and Canadian lines are settled between companies in accordance with A A R rules, just as between United States lines themselves. There are no such settlements, and no through booking, with Mexican lines. Canadian railways publish freight rates to the 'Rio Grande Crossings' (i.e. the Mexican U S border) and at the Crossings the cars must be re-billed to the final destination.

TRANS BORDER RAILWAYS

In 1936 United States railroads controlled 1,556 miles of line across the Canadian border, while Canadian railways controlled 7,312 miles across the United States border. The Canadian Pacific Railway owned a section of line which traversed the State of Maine, and freight trains were transited under customs seal. The case has been likened to the Polish Corridor. A similar case may arise with the construction of a United States line across Canada to Alaska.

It has not been found necessary to have any special laws or regulations for these trans border railways.

TARIFFS AND CLASSIFICATION

With the object of simplifying rail tariff calculations and creating the closest possible traffic relations, certain 'classification territories' have been mapped out in the United States and Canada within which more or less uniform tariff conditions are applied. This movement, both in the United States and in Canada, is of the highest importance, and it has recently undergone a remarkable development.

Up to 1945 the area of the United States was divided into three classification territories.

'Official' classification territory, lying between the Atlantic on the east, the Canadian border on the north, Lake Michigan and the Mississippi river on the west, and the Potomac and Ohio rivers on the south.

'Western' classification territory, bounded by Lake Michigan and the Mississippi river on the east, Canada on the north, the Pacific on the west, and the Mexican border and the Gulf of Mexico on the south.

'Southern' classification territory, comprising the rest of the country.

The 'Official' and 'Western' territories were further subdivided into three sections each.

These classifications specify standard minima per car-load for

various descriptions of commodities according to their loading qualities. The rates charged affect principally manufactured and miscellaneous goods. Bulk traffics move largely under special bulk rates not affected by the classification.

Traders in Southern Territory have recently complained that their rates on 'classified' goods were too high, and discriminated against them when compared with the lower scales of rates in Official Territory. They took their complaint to the Interstate Commerce Commission. That Commission has now (May 1945) upheld their complaint and has ordered the railways to prepare a uniform rate classification applicable to the whole country with the exception of Mountain-Pacific Territory, one of the subdivisions of Western Territory. In the meantime, and as an indication of the general lines upon which the new uniform classification should be carried out, they have, broadly speaking, ordered a reduction of 10 per cent in the rates charged under the Southern and Western territorial classifications and an increase of 10 per cent in the rates charged under the Official territorial classification. The change is significant as showing the weight of the forces which make for standardization of classification in a continental area such as the United States. It will be referred to later (p. 139) when occasion is taken to deal with the problem of standardization of classification in Europe.

Canadian territory is divided into two parts. Canadian Freight Association Territory, roughly east of, but excluding, Port Arthur on Lake Superior, and Western Canada. It may be noted that the closest traffic relations exist between the three United States territories and the Canadian Freight Association Territory. A system of class and commodity rates has been created, and an elaborate structure of differentials has been agreed as a means of putting an end to rate wars between the trunk lines serving the Atlantic ports and New England. Under the supervision of the Interstate Commerce Commission in the United States, and the Board of Railway Commissioners in Canada, these rate differentials provide the basis for a common understanding in regard to import and export traffic among the railways from the Gulf of Mexico to Hudson Bay and from the Atlantic to the Pacific. They serve to distribute external traffic over the different routes and ports without regard to national boundaries, but with due regard to the character and cost of the different routes, for instance, where a route is partly by water, the differential is framed to allow for the lower cost of this section and the lower speed of transit. Thus the inferior but less costly route obtains its fair share of the traffic. The Canadian railways enjoy much lower taxation than the United States railways and have had a greater share of capital assistance from the State, the Canadian

National is State-owned. These conditions might have been expected to disturb the whole system of differentials, in fact, they are fully recognized and have been taken into account without giving rise to any serious difficulties.

In 1910 the Interstate Commerce Commission and the Canadian Board of Railway Commissioners drafted a treaty for the creation of an International Commerce Commission to regulate rates on international traffic, but this has so far led to no result.

SOUTH AMERICA

GENERAL DEVELOPMENTS

Statistics for the years 1930-3 show that there were about 98,000 kilometres of railways in South America. To this total Brazil and Argentina each contributes rather more than one-third, of the larger republics Argentina is the best provided with railways, whether measured by area or population. The various national railways do not yet form part of an internationally linked system, indeed, they are sometimes composed of disconnected fragments. There is no accepted standard gauge, even in the individual States. The only international railway organization is the South American Railway Congress, but its activities are limited. It held its third session in 1929, and its fourth in 1941.

Hitherto the governing factor has been that the republics of South America have looked outwards towards the sea rather than in the direction of their immediate neighbours.

There were signs of a change even before the war, but it was to air transport rather than to the railways that the republics seemed to look for the strengthening of their international connections. This development was not unnatural, having regard to the immense physical difficulties of extended land communications on the South American continent. The war has emphasized this tendency.

So far as the railways are concerned, all South American States alike need an increase of mileage. The war has at the same time increased the urgency of the need and the difficulty of satisfying it. The demand for improved land transport has become more pressing, and international co-operation through lend lease and other agencies appears to be playing some part in this movement. On the other hand, even when loans were available, the war severely restricted not only railway development, but even railway maintenance, owing to the difficulty of obtaining material, skilled labour and technicians.

OUTLETS FOR BOLIVIA AND PARAGUAY

The most notable recent railway developments have been in Bolivia, Paraguay and the surrounding territories. The problem

of developing the resources of Bolivia and Paraguay has assumed special urgency during the war period

Bolivia is cut off on all sides from access to the sea. Her most populous area, the Bolivian plateau, is isolated between the high ranges of the Andes not only from the Pacific but also from Bolivia's own eastern territory, which with one fourth of her population covers three fourths of her area. Eastern Bolivia, in its turn, is isolated from the Atlantic by the forests of the Amazons, and has hitherto looked for its only potential outlet, across the Gran Chaco, to the navigable waters of the Paraguay river.

Bolivia's position is in some ways comparable to that of Czechoslovakia in Europe, but with this difference, that Czechoslovakia was strong industrially and could command all routes by playing off one neighbour against another, while Bolivia, being undeveloped, has found her efforts frustrated on every side. Her powerful neighbours have taken her up and dropped her in turn as suited their own foreign politics, while she has until recently encountered the unalterable resistance of Paraguay in the attempt to secure a port on the navigable course of the Paraguay river.

The discovery of oil on the Gran Chaco has altered the position. This discovery enabled Bolivia in 1937 to secure favourable agreements with Chile, Peru and Brazil, and these negotiations in turn have alarmed the jealousy of Argentina. Chile, which had deprived Bolivia of her outlet to the Pacific in 1884, had then endeavoured to satisfy her by constructing a railway from Arica to La Paz, but the portion on Bolivian territory was not completed till 1913 and only handed over to Bolivia in 1928. Even so, the transit of Bolivian traffic to Arica remained subject to restrictions, and was far from satisfying Bolivia for its loss of a Pacific port. In 1937, after the discovery of oil on Bolivian territory, Chile entered into fresh agreements. In accordance with these agreements Chile grants 'free transit' to persons and goods, including munitions, going to and from Bolivia, establishes a mixed commission for regulating rail transport between La Paz and the Pacific port of Arica, and—no doubt—hopes to reduce Bolivia's desire for a port of her own on the Pacific. It may be noted that at the same time progress is being made with a new transandine railway between Antofagasta (Chile) and Salta (Argentina).¹ This railway may benefit south eastern Bolivia, but it is primarily intended to provide an outlet to the Pacific for the products of the Argentine provinces of Salta, Jujuy, Tucuman and Catamarca.

Peru hastened to conclude extended conventions, including the

¹ On the first Transandine Railway see p. 120

construction of a new Pacific Port at Matarani in place of the open roadstead at Mollendo

Brazil was in a position to offer even more substantial favours. The agreement in her case included an agreement (1938) for the construction of a railway to serve the new Standard Oil refinery, and of a line linking Bolivia via Cochabamba and Porto Esperança (Brazil) with Santos on the Atlantic coast. There was also a treaty for the joint exploitation of Bolivia's oil deposits. The new railways will complete a transcontinental connection of some 2,500 miles from the Atlantic coast across Bolivia to Arica on the Pacific coast. The importance of this railway for continental defence was recognized by the Ministers of Foreign Affairs of the American Republics at their Second Meeting at Havana in July 1940.

The projected transcontinental railway will be of metre gauge. It will use the already existing lines from Arica to Cochabamba and from Santos to Porto Esperança (on the Brazilian side of the frontier). Work on the intervening section, from Cochabamba via Santa Cruz and Corumba to Porto Esperança, is at present being carried out by Bolivian and Brazilian engineers. From Cochabamba the railhead has been pushed 75 miles forward to Vila Vila, and a further 62 miles are reported to be under construction.¹ From Porto Esperança the line has been completed as far as 100 miles west of Corumba, and it was expected to complete another 100 miles before the end of 1944.² There would seem to be still a gap of some 300 miles to be bridged.

The agreements with Bolivia were part of a Brazilian project to divert to her own ports the commerce of the upper Plata basin, as part of this scheme Paraguay was persuaded to undertake road construction from Asuncion to the Brazilian frontier. In 1941 the two Governments went further and signed a convention for the construction of a railway link (with Brazilian capital and certain fiscal privileges to the benefit of Brazil) and a bonded warehouse at Santos for Paraguayan merchandize. A similar agreement was concluded with Bolivia in June 1943.

The Argentine Republic has always regarded the Plata basin as coming within her own sphere (the old Viceroyalty of La Plata) and has begun to take steps to counteract the Brazilian campaign. The Argentine and Bolivian Governments in 1937 agreed to establish a mixed commission to investigate the possibility of linking the State-owned Argentine Central Northern Railway with the Bolivian railways and the oil-wells. Surveys were carried out, and the

¹ *Railway Gazette*, 24 December 1943.

² League of Nations. *Aperçu Mensuel des Evénements Importants dans le Domaine des Transports*. November 1944.

Argentine Government in 1940 undertook to advance the funds for the construction of the first section

In 1941 Argentina entered into an agreement with Bolivia to build a railway from the frontier town of Yacuiba to Santa Cruz in Bolivia, and work is proceeding on this, although rather slowly

Argentina has been equally anxious to retain Paraguay within her sphere In December 1943 she agreed to give Paraguay free port facilities at Buenos Aires and Rosario

INTERNATIONAL TECHNICAL AND ADMINISTRATIVE ARRANGEMENTS

The exchange of international traffic by rail is inconsiderable owing to the sparsity of international rail junctions Brazil and Uruguay are the only two Governments which have concluded operating agreements The convention, signed at Rio de Janeiro in May 1913,¹ declares the railway lines between the adjoining frontier stations of Rivera and Santa Anna do Livramento to be international, and this was followed up by Article X of the Treaty of Commerce and Navigation of 1933,² which allows each country to run locomotives and loaded or empty wagons into the territory of the other through all existing or future frontier junctions Article XI established a Commission of Experts to study the possibility of establishing a railway union with special general and local tariffs It is not known if the experts have completed their study

There are no general international regulations comparable to the Berne Conventions or to the voluntary regulations of the A A R in North America

ECONOMIC AND POLITICAL QUESTIONS AFFECTING RAILWAY OPERATION

The Transandine Railway

This railway, which runs from Valparaiso (Chile) to Mendoza (Argentina), was originally an international concern under British management (through the Buenos Aires and Pacific Railway) on the Argentine side and under Chilean management on the Pacific side In 1922 an agreement was made by which there was to be unification of management under a United Committee, who would appoint the General Manager, fix the tariffs and use the rolling stock in common

Unhappily, bad times supervened in 1931, and a customs tariff dispute broke out between Chile and Argentina This affected particularly the lucrative cattle traffic from Argentina to Chile

¹ B.F.S.P. vol CVII p 611

² L.N.T.S. vol CLXXVI, p 397

Traffic fell to a low ebb, and in April 1932 the Transandine Railway suspended operations. It did not reopen until December, and within a year the service was once more interrupted by severe flood damage between Mendoza and Punta de Vacas. The Chilean Government took over the operation of the line from the frontier to Punta de Vacas, but the Buenos Aires and Pacific Railway was not in a position to repair the breach, and the Argentine Government were indifferent. Reconstruction work did not in fact begin until 1937, when the two Governments came to a compromise on the tariff question, and in 1939 the Argentine Government took over the section of the line in their own territory. The line was ultimately reopened in March 1944.

The British Railways in Argentina

British capital has contributed very largely to the construction of the Argentina railway system. Even as late as 1937 British capital owned and operated 25,000 km out of 40,000 km of line. But the history of the investment has not been a happy one, nor is its present position encouraging.

To obtain a connected view of the problem it is necessary to go back to the Mitre Law of 1907. This gave certain advantages to the railways in the free importation of railway materials, and freedom from all national, provincial and municipal taxation. On the other hand it imposed a special tax of 3 per cent on net income, and asserted the right of the Government to fix tariffs when net revenues exceeded a certain figure—in effect 6.8 per cent of the capital. The Mitre Law is due to expire in January 1947.

In the meantime the Government began to build railways on its own account, ostensibly in sparsely populated areas not favoured by British capital. In 1933 the State system had grown to some 9,000 km, and its competition was appreciable. Road competition also had its effect, bad trade heavily reduced railway revenues, and labour troubles brought about a serious increase in the burden of railway expenses. The ratio of expenses to gross receipts rose from 67 per cent in 1924 to 72 per cent in 1928 and 83 per cent in 1933. In 1929 the Argentine Government abandoned the gold standard and depreciated the peso, in 1933 the Government depreciated the peso still further, and the British railways have since incurred heavy losses on exchange.

The British railways were thus placed in a very disadvantageous position. They have submitted a scheme for the solution of the problem to the Argentine Government, but this scheme had not been accepted by the Government up to the outbreak of the war.

Rate Negotiations between Chilean and Peruvian Railways

Traffic between La Paz (Bolivia) and the Pacific ports has for many years been a subject of competition between the Arica-La Paz Railway, controlled by the Chilean Government, and the Southern Railway of Peru controlled by the British Peruvian Corporation. A pooling agreement was eventually effected, but when the Bolivian Government took over the Bolivian section of the Arica-La Paz Railway in 1928, the agreement was allowed to expire and rate cutting began again.

Nevertheless, the Bolivian Government had occasion to complain in 1936 that the Chilean Government were charging higher rates per mile for Bolivian traffic than for Chilean internal traffic, and they invoked the Barcelona Transit Convention of 1921 as pronouncing against such a practice. The Chilean Government sought to put the blame on the Peruvian railway, but they did not alter their practice.

River Plate Regional Rate Agreement

At the River Plate Regional Conference held at Montevideo in 1941 Argentina, Bolivia, Brazil, Paraguay and Uruguay signed an agreement (on 6 February) to grant rebates, so far as their legislation permitted, under tariffs applicable to the different means of transport in respect of consignments to or from Paraguay and Bolivia.

Foreign Controlled Railways

Reference has already been made to the British owned railways in Argentina. There are others in Brazil, Columbia, Ecuador, etc., but the number has been reduced by nationalization. One of these, the Antofagasta-Bolivia Railway, originally operated entirely in Bolivia, but after the annexation of the coastal region by Chile it was divided into two independent managements, under Chilean and Bolivian law respectively. The two managements, however, work in close co-operation with common use of rolling stock.

The International Railways of Central America, operating in Salvador, Guatemala and Mexico, are owned by a United States company.

XI GENERAL INTERNATIONAL REGIME

ARTICLE 379 of the Treaty of Versailles contemplates the formulation of a railway convention (among other conventions) of world wide scope setting out certain basic conditions of rail transport

The Commission of Enquiry on Freedom of Communications and Transit drafted a Convention on the International Regime of Railways. The Convention took the form of general principles on freedom of transit and the economic solidarity of nations, to which practical application might be given later by means of separate conventions, at first regional, but eventually, perhaps, general. It was further contemplated that these separate conventions would be linked to the general regime arising out of Article 23(e) of the Covenant of the League of Nations. They were, however, not to interfere with the autonomy of existing regional conventions, and in particular the Berne Convention of 1890.

The discussions in the Commission dealt largely with railway tariffs and their use for political purposes, such as the protection of national industries. On this point there were great differences of opinion and in the end the draft Convention left the problem on one side.

The Barcelona Conference of 1921 discussed the draft Convention, but the French delegation pointed out that the Berne Convention of 1890 fulfilled, for Europe, all the requirements of Article 379 of the Treaty of Versailles, further, that the Barcelona Conference had no power to modify or extend the Berne Convention. In the end the draft Convention was converted into a Recommendation covering four main heads

- (a) Through documents for merchandize,
- (b) Through booking facilities for passengers and baggage
- (c) Exchange of rolling stock,
- (d) Facilities for merchandize and passengers not to depend on ownership or nationality

But these recommendations were not to rule out different tariffs for internal, import, export or transit traffic. The Recommendation was, however, accompanied by a resolution recommending the conclusion of a Convention within two years.

The Second General Conference on Communications and Transit held at Geneva in November 1923 had before them a new Convention drafted by the Railway Sub-Committee of the League of Nations Transit Committee. After much discussion and modification a

Convention, to which was annexed a Statute on the International Regime of Railways, was finally approved. By 1 September 1938 it had been adopted by twenty five Governments, the most notable exceptions are Australia, Canada, China, South Africa, the whole of South America, the United States and the U S S R.

Although the Convention attempts to combine the principles underlying the Berne Conventions and Regulations, it is in fact a declaration rather than a convention. Its legal effect is small, but it has a certain moral value inasmuch as it lays emphasis on freedom of transit, and non discrimination, though asserting the full liberty of the contracting States to frame their own tariffs. It provides at least a framework within which regional agreements could be concluded.

XII THE FUTURE OF INTERNATIONAL RAIL TRANSPORT

THE preceding chapters have been intended to give a general view of the development and organization of international transport up to the outbreak of the second world war. It has been thought desirable to hold over until a final chapter the main burden of comment on that development and organization, and all suggestions relative to future developments, whether in general or in the particular circumstances which are likely to materialize in the immediate post war period.

Those comments and suggestions are here submitted with a full sense of their tentative character—both in themselves and having regard to the uncertainty of the world conditions in which they would fall to be applied. Moreover, experience obtained in one part of the world provides no sure guide as to the methods which will best contribute to the development of international transport co-operation in other parts of the world and, in particular, on the continent of Europe, divided and tormented as it has been by thirty years of war and unexampled trade depression. It has been assumed that the desire for co-operation still survives, and it may be hoped that this will be felt with unusual urgency in the field of rail transport, which is of such primary importance for the revival of world prosperity whether it be approached from the economic, industrial or social point of view.

It has already been observed that in the period between the two wars, the nations of Europe showed a greater willingness to co-operate in the field of rail transport than perhaps in any other domain of their political and economic relations, and achieved a greater measure of success. It is not too much to hope that in the years of peace that lie before us that willingness will again be made manifest, and will lead to greater success and more notable developments.

If this is to be achieved, it will be necessary to learn from the lessons of the last peace, and to apply those lessons in laying the foundations of our new international organization. Europe has been the centre of political disturbance in the period under review, and it is in Europe that the successful or unsuccessful co-ordination of rail transport will have the strongest influence on the economic and social, and indeed on the political, developments of the post war world. Nevertheless, in the interests of clarity, it may be well to begin with some outline of world organization in the matter of rail transport and the way in which it is likely to develop.

ORGANIZATIONS OF WORLD-WIDE CHARACTER

There seems no reason to doubt that the political world organization which we must assume will take shape as the result of international conferences and discussions will recognize the expediency of attaching to its Social and Economic Council (or other similar body) a World Transport Organization the possible nature of which is dealt with fully in the final volume of this series. Rail transport is, however, a regional activity. Whilst one region may learn from another, and has much to gain from a full knowledge of railway developments in other regions, any attempt to impose uniformity as between two regions would be very likely to do more harm than good. The world wide organization for railways would therefore play its part most usefully in a consultative or advisory capacity, and as a centre for information and discussion. If this view be accepted, the duties in respect of railways of the new world wide organization might be enumerated somewhat as follows:

- (1) To investigate particular problems of rail transport which are of interest to more than one region, and to make recommendations.
- (2) To compile information and statistics, on a comprehensive plan, in regard to railway operations and development in all parts of the globe.
- (3) To offer its services as arbitrator when voluntarily called in by two or more Administrations in dispute.

These functions could all be fitly discharged by an appropriate world wide committee on Rail Transport. But problems might also arise affecting various forms of transport in two or more regions. These would seem to come naturally within the functions of a wider body within the Transport Organization as a whole, whether for report or for arbitration in case of dispute.

It may be added that, having regard to the great benefit which results from conferences and discussions between administrators and technicians on the various points arising in the practice of their profession, and particularly in the realm of rail transport, it might be a special function of the world wide Transit Organization to call periodical congresses of railway experts for the discussion of an agreed programme of questions of technical interest. In fact, however, this role has for many years been effectively filled by the *International Railway Congress Association*, which held its first congress at Brussels in 1885 and its last at Paris in 1937. This association is world wide in character, and its congresses are attended by delegates from all over the world, these are drawn both from governmental and administrative circles. It has its own secretariat

at Brussels, and issues a *Monthly Bulletin* in English, French and German. It would seem in every way desirable to maintain the existence and the independence of this Association, which might nevertheless work in close co-operation with the Transit Organization.

Certain other world wide organizations will, no doubt, from time to time be called upon to deal with railway questions. For instance, the International Labour Office, or its successor in title, might have occasion to deal with the eight hour day or other labour conditions on the railways of the world, but these would be matters of temporary concern and can be left out of consideration in a discussion of the permanent international structure of railway co-ordination. From this point of view, it would probably be found that the world-wide organizations to which reference has been made in the preceding paragraphs are adequate to meet all the requirements of co-ordination outside the regional sphere.

REGIONAL ORGANIZATIONS

It is convenient and practical to regard the railways of the world as falling into a certain number of regions, though it might be difficult to draw the boundaries of some of the regions with accuracy, and, in any event, the boundaries will vary with the progress of railway development. The justification for regarding railway problems as largely regional is that the facts of geography and human history have, in the past, isolated certain groups of railways from one another and are still, though in diminishing degree, likely to continue that isolation. North and South America, South Africa and Europe constitute four such regions, their regional organization is at various stages of development, and will no doubt continue its development in harmony with the political and economic development of those areas. For our present purpose it is pre-eminently the problem of Europe which we have to consider, and the lines which it is desirable that European railway co-operation should follow in the post war world.

REGIONAL ORGANIZATION IN EUROPE

A review of the machinery in operation for the co-ordination of European international rail transport as it existed before the outbreak of the second world war suggests certain considerations for guidance in future action.

Governmental Organization

There were, before the second world war, two governmental organizations in existence. These were

The International Conference for Promoting Technical Uniformity on Railways (the *Unite Technique*) and

The 'Berne' Union with its organ the Central Office for International Railway Transport

Both these bodies had their centre at Berne, but their geographical location is of secondary importance and may be left for later discussion. It is their objects which are the essential consideration at the present stage. These have been already indicated (pp. 15-30). The two organizations cover different ground, but since their function is to obtain general governmental sanction, or otherwise, to proposals put before them by appropriate governmental representatives or administrative experts, it is not clear why they have maintained a separate existence.

In the new circumstances of European reconstruction the two bodies might appropriately be merged in one as an International Conference with a Central Office of its own. The function of the new body would be to consider, as a conference of governmental representatives, any railway questions brought before them by the appropriate committee of administrative representatives as requiring governmental sanction, whether arising in connexion with the code of the *Unite Technique* or the two Conventions, or otherwise.

In this way, a single body would be created representing the Governments of the member States on all matters of international rail transport co-operation where governmental approval is needed.

On the question of membership, it may be noted that the membership of the Berne Union includes all the principal States of continental Europe with the exception of the U.S.S.R. It may be hoped that, in the case of the new Union, the U.S.S.R. will be prepared to take part in the discussion as to the ultimate location of its headquarters' organization, and in due course to review its attitude as to membership. It is of course very much to be desired that the weight of the Soviet State and the Soviet railway system should be made available to help in the general development of international rail transport co-operation. This, more than anything else, would prevent the emergence of any Central European domination in the railway development of Europe as a whole.

It is also much to be regretted that the United Kingdom stands aloof from the Union (pp. 31, 32). It may be doubted if the modifications in British railway law which would be involved are in any real degree comparable, as a set off, with the additional strength and prestige which would thus be given to the whole conception of international co-operation and development in the world of trans-

port It should now be possible to review the whole question with a wider outlook than has perhaps prevailed in the past

The relations between the new Union and any high international authority which may be set up after the war will also call for consideration

The new Union, with or without the U S S R and the United Kingdom, would remain a regional organization only It could function appropriately as a regional rail transport committee of the future international political authority, or of any political regional (European) council which it might set up

Administrational Organization

There was, as we have seen, no unified or integrated organization covering the international relations of the European railway Administrations as a whole, even in the limited areas covered by particular departments—engineering, commercial, operational or financial—the tendency appears to have been to create new special organisms to deal with new features as they might emerge, rather than to extend the activities of existing organizations In the result, though the ground was covered in one way or another, there was an unnecessary amount of overlapping and some waste of effort

Some Suggestions for the Future

It will perhaps not be without value to consider, in outline, the characteristics of a more compact and economical system

(a) Any international agreement between railway Administrations may involve changes of law in one or more States, or changes of treaty affecting several States These changes can only be brought about by governmental action, as has been done in the case of the Berne Conventions To achieve this result there must be a recognized procedure for submitting resolutions and recommendations in favour of such changes to a central governmental body, whatever its name and ultimate status in the world order

(b) For this purpose, a central administrative body is required, representative of all European Administrations This central body will discuss and, if approved, submit proposals requiring legislation to the central governmental body (the new Union) It will also discuss and, if approved, authorize other proposals submitted to it from the subordinate administrative bodies referred to below, in so far as such proposals exceed the powers of the subordinate bodies but do not need governmental sanction

(c) There should be subordinate administrative bodies dealing with particular departments At this level, the classification of the

five permanent committees of the U I C supplies a useful precedent. There would be committees dealing with (i) Passenger Traffic (ii) Goods Traffic, (iii) Accounts and Clearing, (iv) Rolling Stock Exchange, and (v) Technical (Engineering) Questions, the last being again subdivided into rolling stock, permanent way, electrical—perhaps also signalling and other specialized departments.

Alternatively, the British and American precedents might be found more convenient. If so, the committees would be rearranged as follows: (i) Operating (Passengers and Freight), (ii) Commercial (Passengers and Freight), (iii) Civil Engineering (incl. Signalling), (iv) Mechanical Engineering, (v) Accounts and Clearing. Rolling stock exchange becomes a sub-department of (i) and the payments therefor a sub-department of (v).

The application or modification of the various conventions or other basic sets of regulations would be distributed between these committees in accordance with their subject matter, and any new matter which might arise for decision would be assigned by a Central Bureau to the committee or committees to whose province it was judged appropriate.

In this way, a single co-ordinated organization would remain permanently in being, qualified to give expert consideration to any questions which might come up for solution in the whole range of railway affairs, and, after consideration, to take action, if within its powers, or to recommend action to a higher authority if the importance of the question made that course necessary.

The organization of the Association of American Railroads, itself in some degree a body of international character (see p. 107), may perhaps be cited as a useful precedent for similar co-ordinating action in the European field.

It has already been suggested that the geographical location of the new governmental Union is a matter of secondary importance. The same suggestion is appropriate in the case of the various administrative bodies. Some general considerations, however, may be put forward, affecting both the Union and the administrative bodies.

(i) It is desirable that the new Union should have its main seat at some conveniently central city. Readiness of access and adequacy of accommodation are important considerations.

(ii) To avoid all possibility and (equally important) all suspicion of partiality or pressure, in the conduct of the affairs of the new Union it is desirable that the centre chosen should be situated in the territory of some minor power, and that the minor power should have as few competitive interests as possible in international transport.

(iii) To ensure harmony, efficiency and reasonable promptitude

in action, it is desirable that the supreme administrative body shall establish its headquarters at the same centre as the new (governmental) Union

(iv) There is a general case of the same nature for establishing the subordinate administrative committees (so far as their functions are general to the whole region) at the same centre, but other considerations might easily outweigh the advantages of concentration, and if it were felt to be desirable, the headquarters of the various administrative bodies and committees might be widely distributed, to satisfy the claims of nationality or geographical convenience

(v) There will be need of an expert permanent staff to carry on the routine conduct of the affairs of the new Union, the supreme administrative committee and the more important of the sectional committees. Such a staff will be difficult to select and will require prolonged training. It will be well for the new organization to look in the first place to those who have been already carrying on such work under pre war conditions, and this should have its influence, as a consideration affecting the choice of a location for the main seat of the whole organization

Subject to these considerations, we may perhaps follow out some what further the possible lines of the future organization

Assuming that a new Union is constituted as the European governmental authority presiding over international railway affairs involving treaty or legislation, we find two bodies each of which might claim to fill the position of the central administrative organization, through which alone international railway questions requiring legislation or treaty should be submitted to the Union. These are the CIT (p 4) and the UIC (p 11). The CIT was in fact set up by the Berne Union for this very purpose, though only in the narrower field covered by the CIM and, later, by the CIV. The UIC was set up in complete independence of the Berne Union, and with a far wider field to cover than the CIT. It is, in fact, framed to cover the whole sphere of railway affairs

The solution would appear to be to combine these two bodies, retaining the comprehensive sphere which is, in theory at least, the feature of the UIC, but retaining also the close association with the central governmental organization which is the feature of the CIT. The title UIC might be retained as being correctly descriptive of the new body. On the other hand it may be thought better to confine the use of the word 'Union' to the new governmental Union, and to find some alternative word, 'Conference' for instance, for use in the title of the administrative body

In any event, if—as seems desirable—international railway organizations are to take their place in a wider organization for

transport generally, it is important that they should be as simple as possible, otherwise the general transport organization would become too complex for efficient working.

The permanent committees of the U.I.C. might well be maintained, but they would properly absorb other committees outside the U.I.C. which have hitherto dealt with matters appropriate to one or more of the U.I.C. Committees. Thus, the Committee dealing with Rolling-Stock Exchange would take over all questions relating to the R.I.V. and R.I.C. The Technical Committee would undertake the maintenance of standards set by the *Unité Technique* and deal with all questions of construction, standards, etc., the Accounts and Clearing Committee would perhaps combine with the B.C.C. (p. 12). The machinery for the revision of the C.I.M. and C.I.V. would call for special consideration. It might either be placed under a special committee or divided between the Goods Traffic and Passenger Traffic Committees. Time Table Conferences would reappear as special sub-committees of the same committees. Their business is, for the most part, such as can be settled without reference to a higher authority.

It may seem presumptuous in a pamphlet of this nature to suggest far reaching changes in an organization which has been evolved over decades by experts of the highest capacity. The justification lies in this, that unless the organization of European international rail transport is comprehensive, compact and strong, it will be overshadowed by organizations built up on national foundations, as it has been in the past. The power of directing policy will pass from Europe as a whole to particular Powers, favoured by geography and armed by experience and persistence to use those favours to the utmost. The growth of the *Verein Mitteleuropäischer Eisenbahn-Verwaltungen* between the two wars is a phenomenon which should on no account be allowed to repeat itself, it remains a constant menace and a warning.

TASKS AND FUNCTIONS OF EUROPEAN REGIONAL ORGANIZATION

We have considered so far the nature of the organization required for the co-ordination of rail transport in Europe. It now remains to turn our attention to the work which that organization will be required to perform.

It must, for the present, be assumed to be the aim of all the Governments and Administrations parties to the organization to increase the volume of international rail transport and the efficiency of its operation. On this assumption, an international organization may perhaps be considered as directing its efforts to achieving four main objects.

- (a) uniformity of physical standards,
- (b) efficient distribution of rolling stock, particularly wagons,
- (c) uniformity of conditions of carriage, both between Administrations and in relation to the public,
- (d) stability of tariffs, and some measure of uniformity in their structure

None of the objects here enumerated are new. They have already, with varying success, occupied the attention of the different international railway organizations. But they return to the centre of the stage with increased urgency and it must be confessed under conditions of great complexity. How far the measure of physical uniformity which has been obtained before the war will be found to have been maintained when the dust of war has settled, it is impossible to say. It is known, however, that the Berne Conventions on conditions of carriage, with certain inevitable war time modifications, were maintained within the German sphere of domination when this was at its most extensive, and it may be assumed that these conditions will again emerge, when stable peace time conditions are restored, as the abiding foundation of international transport. Other conditions—those for instance, which deal with the exchange of rolling stock—will probably call for more deliberate reconstruction to meet the changes in the political and economic sphere which are likely to be a feature of the new world settlement. It will be desirable to treat each of these main objects of endeavour separately.

(A) Uniformity of Physical Standards

The code of the *Unité Technique* represents a substantial achievement in the work of creating uniform standards of gauge, clearance (load gauge) and other matters essential to the free exchange of rolling stock. That work represents the foundation upon which all subsequent work of physical standardization must be based. It will, of course, need to be amplified and modernized in harmony with the development of transport methods, and the means by which these changes can be brought about have already been indicated (p. 129). At the same time, there are other directions in which, under the pressure of changing economic conditions, the work of standardization could be widely and usefully extended.

Standardization of Rolling Stock. Standardization of the wagons themselves, though not essential is desirable in a high degree. It is probable that, in the sphere of international transport costs, few developments would be more remunerative than a movement toward a reduction in the types of rolling stock in use over the continent of Europe, nor, apart from national sentiments, could any occasion

be more favourable for simplification than the occasion which will be offered to Europe when the post war reconstruction is taken in hand. Old rolling stock has been destroyed to an incalculable extent in the course of military operations, on the other hand so far as new rolling stock has been built, it is probably of some standardized patterns. In any event, there will be a vast work of new building and of heavy repairs to be undertaken. Viewed impartially, the occasion is one which should not be missed for building new rolling stock to a few standard patterns of an all European character, and in this connection the remarkable results achieved by the American Association of Railroads (see p 110 *et seq*) might well be taken as a model.

This Association representing 300,000 miles of line in North America has as a result of the work done on standardization by its Mechanical Division and its predecessor organizations,

- (a) reduced the number of sizes and kinds of freight car axles from 56 to one standard design in five sizes
- (b) reduced the number of types of journal boxes from 58 to one standard design in five sizes,
- (c) reduced 20 different types of brake shoes and 27 different types of brake heads to one standard design in each article,

while in the field of railway stores, the Purchase and Stores Division of the Association has reduced the number of types of various stores by 60 to 90 per cent.

The economy in the ordering of stores and in the stocks to be carried, as also in the speed with which repairs can be effected, needs no emphasis.

The adoption of such international types of rolling stock, and of freight wagons in particular, would be of immense value to the speed, economy and efficiency of repairs to rolling stock not only in international transport, but also within the national boundaries. The formulation of standard designs for vehicles, and fittings of all kinds, falls naturally and equally within the functions of the C I T and the U I C, acting as advisers to the *Unite Technique*. A joint conference of the two bodies might of itself prove a valuable prelude to a more completely integrated co operation thereafter, whilst, on the other hand, the experience of individual countries, such as the United Kingdom and the United States, in the construction of standard types, e.g. of locomotives for war time 'austerity' purposes, might supply useful precedents for a post war Europe.

An important item in the standardization of wagons is the standardization of systems of refrigeration and heat control. We have seen that there was a considerable development between the two wars in the creation of international through services for perishable

traffics of various descriptions. Such services create new demands and are capable of almost indefinite development. Modern methods of refrigeration, or of temperature control, would be largely wasted if they were not turned to advantage in these directions. The rapid conveyance of fruit from Mediterranean to Northern countries, of fish or other northern products in the opposite direction, of milk or meat from a favourable producing area to points of high consumption, opens a very wide field for the development of the world's resources. Such services, however, call for international agreement in the widest sense, not only in their general arrangement—that is no new type of problem for the railways of Europe—but also in the servicing of the trains and vehicles, *en route*, on a uniform and efficient plan, from one end of the journey to the other. The underlying condition of efficiency in such arrangements is a high degree of deliberate standardization in vehicles and in systems of temperature-control.

Standardization of Electric Traction We have seen already (p. 53) that there was a rapid increase between the two wars in the kilometrage of electrified lines on the continent of Europe. That development is likely to continue: indeed, two new factors are likely to stimulate the process—a further increase in the price of coal, and the competition of air transport. It is not necessary to enter in further detail into the advantages or disadvantages of the conversion from steam to electric traction, but this much is clear that under electric traction the need for concerted action and for international agreement on standards becomes more urgent.

At the end of 1938, 43·2 per cent of the European electrified main lines were operating on single phase A.C., 39·8 per cent on high-tension D.C., and 9·4 per cent on three phase current. For each type of current various voltages were employed. Such variations are wasteful and unpractical. It is not merely that the change from one system to another involves a change of locomotive at a point where, perhaps, no stop of any kind is called for, but systems of lighting, heating, refrigeration, etc., are all more or less dependent on the type of electric power supplied, and can only be adapted with some expense, if at all, to varying types of power. It is in every way desirable to increase speed and efficiency in the transport of passengers, perishables, and foodstuffs of all kinds, to attain this end it is important that steps should be taken to bring about uniformity of systems and standards in all that concerns electric power, as between one country and another.

There are many other directions in which the search for common physical standards would produce beneficial results. These will suggest themselves in the ordinary course of transport business. It

is not necessary to say more here than that the organization for originating, discussing, and (if found useful) recommending such measures of standardization should be easy of access and prompt in action. The various committees of the U I C would seem to offer the necessary facilities.

(B) Efficient Distribution of Rolling Stock

The most efficient and economical system for the use and distribution of freight rolling stock would undoubtedly be a common stock of wagons, distributed by a joint committee representing all the Administrations members of the Union. However, with the exceptions suggested later, this must be regarded as an ideal unlikely of realization. The problem must be approached on the assumption that each Administration will possess its own stock of wagons, supplemented by an undefined number of privately owned wagons. The distribution of such wagons for the requirements of international traffic was elaborately regulated, between the two wars, on the principles laid down in the R I V and R I C, a generally satisfactory system of mutual payments was evolved, and the settlement of accounts was conducted through the B C C at Brussels, except during the periods of violent currency fluctuations. The object of the reconstituted U I C and of its appropriate committees must be, as with the R I V and R I C in the past, to expedite to the utmost the transit and exchange of rolling stock in international use, and to reduce to its lowest possible limits all empty and uneconomical running.

It may be hoped, however, that in certain fields, e.g. the provision of refrigerated stock, room will be found for a less individualistic policy. In such cases, where the volume and movement of the traffic are reasonably stable, there would be great advantage in the creation of a common stock subject to regulation by a joint committee, whose aim it should be to obtain the greatest possible utilization of the stock in the joint interest of all participants. The principle might be applied by two or more member Administrations, or by the whole body of members as circumstances might render desirable.

As between pairs, or groups, of neighbour States some form of 'common user' might be applied to all descriptions of wagon stock, perhaps on the lines adopted by the British railway companies during the war. All such developments are to be encouraged, not only on political grounds, but as tending to secure the best possible utilization of the stock available, and the minimum of empty running.

(C) Uniformity of Conditions of Carriage

Here, again, it is appropriate to recognize the great work that has been accomplished by the Berne Union in setting up the whole

structure of uniform law and regulation by which the international transport of freight in Europe has been governed for fifty years, nor is the work of the Berne Union in respect of passenger traffic, though of more recent date, any the less fundamental. If the future organization of international rail transport should follow the lines here suggested, it will be for future conferences acting on recommendations placed before them by the UIC, to extend the structure of uniformity so as to include other elements as judged most advantageous to the development of international traffic.

In this connection, reference has already been made (p. 33) to the important question of the Unification of National Laws and to the steps taken by the UIC, unfortunately without result in the formulation of proposals for harmonizing national laws on the carriage of passengers and goods traffic. The question of negotiable transport documents (p. 28) in which the International Chamber of Commerce takes such an active interest, is a further item calling for the consideration of the future international organization.

(D) Stability and Uniformity of Railway Tariffs

We have seen that the problem of securing a greater uniformity of tariffs occupied the attention of the railway experts to a notable extent between the two wars (pp. 54-56). The subject was approached from three points of view—nomenclature, publication and structure. The first problem had been taken up on general lines affecting all Europe, the other two from the regional point of view, but the results have been equally disappointing. It may be assumed that these efforts will be renewed, it is certainly desirable that they should be.

Publication. Of the three problems the most urgent and, on the whole, the simplest is that of publication. The discussions and negotiations that took place on this question between the two wars have already been given in some detail (p. 54). In the end a certain measure of agreement was reached (1933) and Article 9 of the C.I.M. was modified to prescribe that increases in international tariffs should 'not become effective until fifteen days at the earliest after their publication'. This length of notice is certainly inadequate in the case of shipment traffic, where arrangements must be made well in advance. It will be desirable that the whole question should be reviewed in the hope of devising more ample and elastic arrangements and of securing their general application. There is no difficulty in the formulation of a scheme, the difficulty lies in securing its acceptance and enforcement. (It should be noted that variation in the exchange value of a particular currency has always been regarded as justifying an immediate corresponding variation in tariffs.)

Nomenclature International tariffs are quoted as applicable to particular denominations of merchandize. It is an elementary necessity that there should be no misunderstanding as to the nature of the merchandize intended, arising from ambiguity in the terms used in the languages of the different countries interested in the tariff. Yet it is a fact that, in the constant change and development of commercial production, the same difficulty of interpretation arises even within national boundaries where the language difficulty does not arise, and permanent committees are engaged in the task of standardizing the description and classification of new forms of product. We shall speak of classification later, but the difficulty of interpretation is no less real, and it is intensified as soon as it becomes necessary to translate into another language.

The importance of arriving at a standard nomenclature, founded upon the absolute equivalence of certain descriptive denominations in all the principal languages of Europe, has been fully realized in the past, so also has the difficulty of achieving, and maintaining, such a result. It is well worth while to renew the endeavour, which indeed demands the regular consideration of an appropriate standing committee, forming an integral part of the prospective international organization.

Structure With the question of standardization of the structure of rail tariffs we enter upon a new field, and one where success is in the highest degree difficult of achievement. Moreover, the value of the achievement itself is open to challenge.

The point is one of some importance, both as a matter of practice and of theory, and it will be desirable to make a few observations on its general significance.

There has at all times been a general presumption in favour of an ideal railway tariff, logically based on mileage and classification, under which an appropriate rate is assignable to any commodity passing in any quantity for any length of journey. Such a tariff structure constitutes, in fact, the legal basis of the railway rate system in Great Britain and in many other parts of the world. It is, however, equally to be observed that the quotation of rates in practice nowhere conforms to such an ideal, and nowhere even tends to do so. On the contrary, the quotation of 'special tariffs' or 'special rates' which apply, regardless of the ideal structure, to individual commodities, or to individual commodities between individual pairs of stations, is increasing. There are, indeed, a multitude of sound economic, social and political reasons against the rigidity of an ideal scale, and the increasing competition of other forms of transport provides one of the most cogent of those reasons. It is, in fact, idle to look forward to a time when the ideal tariff will prevail and all 'special rates'

be abolished. On the other hand, it would be even more mistaken to fly to the opposite extreme and work for a regime of exclusively 'special' rates without any backbone of principle other than the needs of the moment.

It is probably fair to say that in most countries of the world it is recognized that some skeleton framework for rate calculation is desirable, if only as a scale of maximum charges, and as a guide indicating the extent of any particular departure from the ideal. If such a skeleton framework is a beneficial feature in the railway freight system of individual countries, it can hardly be gainsaid that it should also prove beneficial in any international scheme for the furtherance of international traffic.

So much, perhaps, would be accepted, and though there may be a strong body of opinion which would claim that the ideal in view is not worth the labour involved in obtaining it, yet in reply one may point to the fact, already noted (p. 55), that the railways of Europe were engaged on a part of this task before the second world war, and had made some modest progress in the work. It may be hoped that the work will be carried further, and that it will be thought worth while to undertake it on rather more comprehensive lines. One may also point to the recent developments in the United States of America, where popular pressure exerted through the appropriate court of justice has compelled the assimilation of the classifications which have hitherto ruled in the different 'territories' (see p. 116).

Every rate structure starts from a classification of commodities. Given some approach to agreement on nomenclature, the preparation of a model classification would appear to be the necessary first step in the international sphere. Such a task should not prove to be beyond the powers of a capable body of experts. National classifications no doubt exist in many countries, and these would continue to apply nationally, unless voluntarily abandoned. It would probably be found, however, that there was a considerable degree of similarity in the principles on which those classifications were built up, and that the reasons which had operated to include a particular commodity in a high rated class, or a low rated class, in one country had operated similarly in other countries. Considerations of relative value, relative ease of handling, relative bulk or fragility, do not change greatly with political boundaries or with climate.

But classification, though basic in its importance, is only the initial problem in tariff structure. There remains a whole series of problems familiar to the technical expert, but too detailed for enumeration here. Some of them have already been mentioned (p. 55) and others of a similar character may assume importance in post war discussions. The feature which is common to all these

problems is the desirability of obtaining the greatest possible measure of international agreement on a standard, even if there is considerable variation in practice. A hard-and-fast uniformity is clearly outside practical politics.

It may be appropriate to conclude with one general observation on the political aspect of this whole question. The tendency towards uniformity or standardization springs from the practical needs of international transport. These needs are strongest as between two neighbouring countries. If no attempt is made through the central regional organization to satisfy the needs which are, in fact, felt by all in greater or less degree, then the place that should be taken by the central organization will be filled by some individual Administration, or group of Administrations, and there will be set up the nucleus of a separate geographical organization which, from the vantage point of achieved success, may in the end overshadow and belittle the central organization. That, as has been sufficiently indicated, would be no new thing in European railway organization, and it is of the highest importance that the experience should not be repeated. The practical demand for an increasing degree of uniformity and standardization is there, if it is to be satisfied, then the initiative and the continuous driving-power should come from the centre, otherwise the solution will strengthen particular national or sub regional interests at the expense of the central authority.

This principle, however, in no way imposes on the central authority the obligation to begin by laying down general standards applicable to the whole region, before descending to the special standards applicable between particular Administrations. On the contrary, it may easily prove to be the more practical course to ascend from the particular to the general. The essential feature is that the central authority, not the individual Administration, should guide and control the course of the inquiry.

TRANSPORT CONSIDERATIONS AND POLITICAL BOUNDARIES

It has been thought desirable in an earlier part of this volume (p. 68 *et seq.*) to deal in some detail with the special arrangements arising out of the war of 1914-18, not so much on account of the nature of the settlements reached, as on account of the methods adopted and their success or failure in reaching any settlement at all.

Generally speaking, it has to be admitted that an immense amount of negotiation took place, and much friction was generated, with inadequate and unsatisfactory results. The Reparation Agreements of 1930 passed a sponge over many disputes which had become too embittered and too complicated for any other form of settlement,

but that point was only reached after ten years of wasted effort. It is inevitable that the question should be asked whether the answers to the railway transport problems raised by the second world war must be equally delayed and equally inconclusive.

It can be urged that after the first world war there was not sufficient experience or agreement as to the technique to be employed for the settlement of such problems. There was at the same time some apparent reluctance to make use of the organization of the League of Nations. On the other hand, the League perhaps did less than it might have done to organize itself for the solution of the problems that arose in such profusion. It is to be hoped that whatever international authority takes the place of the League will set itself as soon as possible to evolve the machinery of negotiation and impartial arbitration which is necessary for the speedy settlement of these troubles.

It is desirable in the first instance that the treaties themselves should be so framed as to give the least possible occasion for dispute. Many considerations other than those of transport will enter into the formulation of the treaties, and transport considerations will inevitably occupy only a minor position, nevertheless, they cannot be left out of account without disadvantage. In fixing new boundaries such considerations should be given their due weight. A political boundary should not, except with the strongest justification, assign to one country a short length of line which forms part of a through route between towns in another country. In the same way, the junction between two lines serving one country should not, except for the most compelling reasons, be assigned to the territory of another country. Problems of this nature could be multiplied, and the transportation arguments are clear enough, it is the ethnical and political arguments that disturb the balance.

However great may be the desire to avoid unnecessary disturbance of transport conditions, it may be taken that any change of boundaries will give rise to numerous disputes. The questions involved will be varied and will be likely to range from the rights of shareholders down to the repairs and distribution of rolling stock. Some will raise questions of law and will have to be dealt with through legal channels with ultimate reference, if necessary, to the recreated International Court of Justice, but these will be a minority, and for the most part will leave the practical work of transport unaffected. The greater number of disputes, however, will concern practical questions of rail transport, and if left unsettled they will have an unfortunate effect on the efficiency of the international transport services. The experience of the last peace indicates very clearly that such disputes, involving as they often do questions of national

amour propre, may take years to settle, and may in the end only be settled by some rough and general rule imposed from outside. In the meantime, the course of transport is impeded and national feeling embittered. It is seldom that clear principles of justice are involved. What is wanted is not an abstract judicial investigation, but a prompt decision, given with knowledge and reasonable impartiality, and not susceptible of further challenge.

In reviewing the settlement of these problems after the last war, it is impossible not to feel that too much stress was placed upon agreement between the parties and too little upon the need of promptitude and efficiency. The result of this attitude may be seen in the long drawn-out discussions between Austria or Hungary and the various Successor States (see pp. 77-85). The procedure adopted—mutual agreement, and failing that arbitration by the League of Nations—has an appearance of simplicity and equity. On the other hand, it was far from expeditious; the points at issue were for the most part of purely secondary importance, but hardly any of them were settled within ten years after the end of the war.

The re-establishment of efficient transport after the war will be a matter of the greatest urgency. Questions at issue ought not to be left to the slow operation of conferences and the protocol. Some means of expeditious settlement will be a first necessity. A speedy decision is better than delay, even if the speed of the decision should in some degree militate against its equity. Nor is a settlement by agreement necessarily more equitable, more durable or more satisfactory to the parties concerned than an arbitral award. It has to be remembered that in most cases such settlements 'by agreement' are the outcome of pressure or persistence or *force majeure*, and they are seldom regarded as fair by both sides, or indeed by either. A settlement by arbitration is more likely to be lasting and respected.

The solution of the transportation problems of the next peace treaties would therefore appear to lie in constituting a strong and simple machinery of arbitration, capable of handling transportation questions of all kinds, and supported by the full prestige of the new international authority. Such a machinery should not be hard to devise, and clauses defining its nature and jurisdiction should form part of the treaties imposed on the various enemy Powers. A reasonable time (say, two years) should be allowed for settlement by agreement, after that period, or earlier by consent of both parties, the arbitral body should hold itself ready to act and to decide the issue, on the appeal of either disputant.

The constitution of the arbitral body will need special consideration. To ensure prompt action it would seem that the members must be permanent and must be prepared to give their whole time

to the work. To ensure that the decisions given are reasonable and, on broad lines, such as will carry conviction to the disputants, the arbitrators must be men with experience in the sphere of rail transport, or have the advice of impartial railway experts as assessors. Lastly there must be no doubt that their decisions when given will be implemented with the full support of the international authority. The appointment of the members of the arbitral body by the international authority itself should be sufficient guarantee under this head.

It may with reasonable confidence be expected that the appointment of such an arbitral body under each of the treaties to be entered into by the enemy countries will ensure the settlement of all disputes affecting rail transport, with common sense and substantial justice to the parties concerned, and, most important of all, it may be expected that the settlement will be prompt and final.

NOTE ON SOURCES

THE published sources utilized in this study may be grouped as follows (1) international treaties, conventions and agreements, (2) documents and proceedings of international organizations and conferences, (3) international railway regulations, (4) Government and other official documents, (5) unofficial reports, books, pamphlets and periodicals

For greater convenience the sources are here arranged by continent, and to avoid duplication those common to Europe and other continents are collected together under 'Europe and General'. This applies more especially to treaties, etc

A EUROPE AND GENERAL

(1) INTERNATIONAL TREATIES, CONVENTIONS AND AGREEMENTS

The main source up to 1919 has been *British and Foreign State Papers*, published by H M Stationery Office, and, thereafter, the *League of Nations Treaty Series*

(2) INTERNATIONAL ORGANIZATIONS AND CONFERENCES

For technical journals published by international organizations see separate heading below

International Labour Office

Official Bulletin

Industrial Safety Survey (twice monthly)

Automatic Couplings and the Safety of Railway Workers Studies and Reports Series F, No 1 1924

International Labour Conference 24th Session, 1938

Proceedings

Generalization of the Reduction of Hours of Work Part II

Transport Section A Rail Transport (Report V, Part II, vol I)

League of Nations

Handbook of International Organizations 1938

Quarterly Bulletin of International Organizations

Official Journal

Aperçu Mensuel des Evénements Importants dans le Domaine des Transports

Minutes of the Transit Committee

General Conference on Communication and Transit Barcelona, 1921

Preparatory Documents 1920

- Verbatim records and texts of the recommendations relative to
 the international regime of railways 1921
 General Transport Situation in 1921 Statements submitted by
 the States taking part in the Conference (2 vols) 1922
 Restoration of the Means of Communication in Europe A 64,
 1923, VIII
 Second General Conference on Communications and Transit
 Records and Texts 1923
 European Conference on the Transport of Newspapers, Geneva,
 1929
 Preparatory Documents C E T J 1 1929
 Records and Texts C 115 M 36, 1930, VIII
 Report of the Special Committee on competition between railways
 and waterways C 127 M 43, 1929, VIII
 Report of the Transit Committee on questions raised by the Coun-
 cil in connection with freedom of communications and transit
 when considering the relations between Poland and Lithuania
 C 386 M 170, 1930, VIII
 Juridical and administrative systems in force on the frontier sec-
 tions of railway lines and at junction stations C 144 M 75,
 1935, VIII
 Office Central des transports internationaux par chemins de fer
 Rapport de gestion (annual)
 Permanent Court of International Justice
 Railway Traffic between Lithuania and Poland (Railway Sector
 Landwarow Kaisiadorys)
 Documents Series C, No 54 1931
 Advisory Opinion of 15 October 1931 Series A/B, No 42
 The Panevezys Saldutiskis Railway Case
 Documents, Series C, No 86 1939
 Judgement, Series Z/B, No 76 1939
 Union internationale des chemins de fer
 Statuts de l'Union internationale des chemins de fer
 (Fiche No A 1) 4th edition, 1 January 1939
 Statuts du premier groupement regional des chemins de fer euro-
 peens membres de l'U I C (B U I C, 1930, p 545)
 Recueil des fiches (Recueil des decisions) de l'Union internationale
 des chemins de fer 5th edition, 1 March 1939
 Statistique internationale des chemins de fer (annual)
 Nomenclature uniforme des marchandises pour le trafic inter-
 national, 1 April 1930
 Verein Mitteleuropäischer Eisenbahnverwaltungen
 Übersicht über die internationalen Verbaude auf dem Gebiet des
 Eisenbahnwesens, February 1933

(3) INTERNATIONAL RAILWAY REGULATIONS

The regulations mentioned below include some of the more important of the technical and administrative regulations and recommendations, nearly two hundred in all, issued by the UIC and constituting the Union's *Recueil des fiches* or *Recueil des décisions*

Technical Standardization

Unité technique des chemins de fer Redaction 1938

33 Conditions à remplir par un frein continu pour trains de marchandises (UIC Fiche No B 1)

29 Conditions auxquelles doit satisfaire un frein continu pour trains de voyageurs (UIC Fiche No B 14)

Règles concernant les moteurs de traction électrique (UIC Fiche No 103)

Transmissions électriques de véhicules automoteurs (moteurs et génératrices) Specifications techniques (UIC Fiche No 159)

Exchange of Rolling Stock

Union internationale des wagons Règlement pour l'emploi réciproque des wagons en trafic international (R I V) Édition de Stockholm, valable à partir du 1 janvier 1935

Union internationale des voitures et fourgons Règlement pour l'emploi réciproque des voitures et fourgons en trafic international (R I C) Édition de Nice, valable à partir du 1 octobre 1938

Règlement concernant le passage des wagons à marchandises d'un pays à un autre, ayant un écartement de voie différent, au moyen d'un simple changement d'essieux au point de transit (UIC Fiche No 79)

Directives pour l'emploi des automotrices en service international (UIC Fiche No B 12)

Carriage of Goods

Recommandations relatives à l'élaboration des lois et des règlements de transport interne des États (UIC Fiche No 166)

Prescriptions relatives aux objets admis au transport sous certaines conditions Édition de Pérouse 1937 (L N T S, vol CXCII, p 464)

Dispositions réglementaires pour le transport des colis express en trafic international (UIC Fiche No 32)

Règlement pour le transport des journaux en service international (UIC Fiche No 69)

Règlement relatif au conditionnement de l'emballage des colis en trafic international (UIC Fiche No 14)

- Tarif type pour le transport des marchandises en cadres (containers) et des cadres vides en trafic international (UIC Fiche No 31)
- Règlement international pour l'échange des containers (UIC Fiche No 91)
- Conditions techniques à remplir par les containers pour leur utilisation en trafic international (UIC Fiche No 111)
- Règlement international concernant le transport des wagons de particuliers (RIP) (LNTS, vol CXCI, p 616)
- Prescriptions modèles réglant l'acceptation réciproque en service international de wagons pourvus d'agencements spéciaux nécessitant des soins particuliers (UIC Fiche No 45)
- Règlementation internationale concernant les wagons spéciaux de particuliers aménagés de façon à produire ou à maintenir une température déterminée (UIC Fiche No 93)
- Conditions techniques de construction pour les wagons réservoirs et wagons-jarres destinés au transport des liquides combustibles et caustiques (UIC Fiche No 145)

Carriage of Passengers

- Étude d'ensemble des mesures à prendre en vue d'harmoniser autant que possible les différents droits de transport interne avec le droit de transport international en ce qui concerne les voyageurs et les bagages (UIC Fiche No 148)
- Conditions types à insérer dans les tarifs internationaux voyageurs et bagages (UIC Fiche No 71)
- Conditions types d'un tarif international pour le transport de voyageurs en groupes (UIC Fiche No 11)
- Chapitre spécial à insérer dans les tarifs internationaux de voyageurs pour le transport d'élèves, d'étudiants, ainsi que d'enfants, jeunes gens ou jeunes filles, des groupements constitués en vue de leur éducation morale ou physique (UIC Fiche No 10)
- Projet d'annexe aux tarifs internationaux de voyageurs et bagages relative à la délivrance de billets directs aller et retour, comportant des réductions consenties par les Administrations, soit à l'occasion des expositions, congrès, foires soit pour amener le public à des stations thermales, balnéaires ou climatiques (UIC Fiche No 84)
- Dispositions comptables et prescriptions de décompte relatives au trafic combiné fer-air (UIC Fiche No 134)

Accounting

- Règlement concernant les prescriptions de décompte applicables aux trafics internationaux voyageurs, bagages, colis express et marchandises (UIC Fiche No 20)

(4) UNOFFICIAL BOOKS, PAMPHLETS AND ARTICLES

CLASSIFIED BY SUBJECT

List of Periodicals

- Archiv für Eisenbahnwesen Berlin
 Bulletin de l'Union Internationale des Chemins de Fer Paris
 Bulletin des Transports Internationaux par Chemins de Fer Berne
 Bulletin of the International Railway Congress Association
 Brussels
 Modern Transport London
 Organ für die Fortschritte des Eisenbahnwesens
 Technisches Fachblatt des Vereins Mitteleuropäischer Eisenbahn Verwaltungen Berlin
 Railway Gazette London
 Verkehrstechnische Woche Berlin
 Zeitung des Vereins Deutscher (from 1932 Mitteleuropäischer)
 Eisenbahn Verwaltungen Berlin

General

- Giannini, A
 La convenzione di Ginevra sul regime internazionale delle
 ferrovie Rome, 1934
 Hantos, E
 Mitteleuropäische Eisenbahnpolitik Vienna, 1929
 Der Weg zum neuen Mitteleuropa Berlin, 1933
 Pirath, Carl
 Die Verkehrsprobleme der Gegenwart (V T W, 28 August
 and 4 September 1929)
 Die Eisenbahnen in der neuzeitlichen Verkehrswirtschaft
 (V T W, 8 July 1931)
 Die Eisenbahnen der Erde (annual statistics) (A E, 1925-36)
 Comparaison du trafic, des recettes et des dépenses d'exploitation
 des chemins de fer pour les années 1929 à 1938 (B U I C, 1939,
 p. 113)

International Organizations

- Kraessbohrer, A
 Der Verein Mitteleuropäischer Eisenbahnverwaltungen (A E,
 1933, pp. 12, 345)
 Masters, Ruth D
 International Organization of European Rail Transport (*Inter-
 national Conciliation*, No. 350 May 1937)
 Wolf, P
 Die deutsche Reichsbahn und ihre Beziehungen zu ausländischen
 Eisenbahnen Berlin 1931

Historique de la Constitution de l'U I C et exposé de ses travaux jusqu'en octobre 1924 (B U I C, Nov 1924)

Le Bureau de Compensation de Bruxelles (B C C) (*ibid*, February 1925)

L'Union des Administrations de Chemins de Fer de l'Europe centrale (*ibid*, 1933, p 376)

International Railway Associations (reprinted from the *Railway Gazette*) 1943

Technical Standardization

Kother, Dr Hans

Das Problem der Elektrisierung von Bahnen besonders in Deutschland (V T W, 21 & 28 September 1938)

Unger, Franz

Die zweckmassigste Stromart der elektrischen Vollbahnen (V T W, 23 & 30 January, 6 February 1935)

Zehnder, Dr R

Der gegenwartige Stand der Frage der automatischen Kupplung der Fahrzeuge der Eisenbahnen in Europa (Z V M E V, 19 July 1934)

Transport of Goods and Passengers

Friebe, Dr

Die neuen Ubereinkommen uber den internationalen Eisenbahnverkehr (A E, 1934, pp 477, 843)

Giannini, A

Studi sulle convenzioni di Berna sui trasporti ferroviari Rome, 1935

Joseph, Dr K

Die internationale Regelung des Expressgutrechts nach der Revisionskonferenz in Rom 1933 und ihre Geschichte (Z V M E V 25 June 1936)

Landra, A

L'unification des droits internes qui regissent les transports de voyageurs par chemins de fer (B U I C, 1936, p 1)

Ludicke

Das einheitliche Ubereinkommen zwischen den Eisenbahnverwaltungen uber den internationalen Eisenbahnguterverkehr (Z V D E V, 20 August 1931)

Mayer, Dr Ottmar

Der heutige Stand des internationalen Frachtrechts der Privatguterwagen (Z V M E V, 5 December 1935)

Schmid, E

Die begebbaren Frachtpapiere (Z V M E V, 5 July 1934)

Sommerlatte

Entwicklung und Stand des Behälterverkehrs (A E, 1938, p 245)

Spieess, Dr W

De la négociabilité des titres de transport par chemins de fer et de la possibilité de leur conférer la qualité d'être transmissibles comme les lettres de change (B U I C, 1933, pp 45, 81)

Vogel, Dr P

Regelung des internationalen Behälterverkehrs (*Bulletin des Transports Internationaux par Chemins de fer*, January 1945)

Les Conventions internationales sur le transport des marchandises et des voyageurs par chemins de fer (B U I C, 1926, pp 29, 65, 97, 129)

Conventions et accords internationaux pour les transports par chemins de fer (ibid, 1931, pp 177, 227)

Les containers en trafic international (ibid, 1935, p 88)

Tariffs and Economic Competition

Ahlberg, Dr

Frachtverteilung im internationalen Güterverkehr (Z V M E V, 29 April 1937)

Colson, M

Railway Tariffs and Tolls as an Economic Factor (League of Nations C E I 33, 1937)

Fischer, Dr

Die deutschen Seehäfen und Gdungen (Z V M E V, 23 November 1933)

Giese, Dr Kurt

Die Seehäfen Tarifpolitik, ihre Ziele und Wege (A E, 1928, p 8)

Hoffmann, Dr J

Vorschriften für die Veröffentlichung internationaler Gütertarife (Z V M E V, 14 October 1937)

Kleinmann

Eisenbahn und Aussenhandel (V T W, 18 September 1935)

Rabe, Dr F

Währungsbewertung und Frachtenkredit (Z V M E V, 9 December 1937)

Schubert, Dr A

Zur Frage der Weiterentwicklung des internationalen Eisenbahngüterverkehrs (Z V D E V, 6 October 1932)

Probleme der Frachtverteilung im internationalen Güterverkehr (Z V M E V, 21 March 1935)

Grundsätzliches zur sogenannten Auslobungspraxis der Eisenbahnen (Z V M E V, 1 August 1935)

Probleme des internationalen Eisenbahngutertarifwesens (Z V M E V, 5 November 1936)

Mangel internationaler Gutertarife und Wege zu ihrer Beseitigung (Z V M E V, 28 October 1937)

Schwarz, Georg

Ein neuer Weg für die Verteilung von Verbands Frachtsätzen (Z V M E V, 25 October 1934)

Spieß, Dr W

Tarif, eine enzyklopadische Studie (A E, 1930, pp 851, 1159, 1497)

Die Gutertarifpolitik der Reichsbahn (Z V M E V, 20 August 1936)

Vogt

Die Beeinflussung des internationalen Verkehrs durch die Tarifund Verkehrspolitik der Reichsbahn (Z V M E V, 20 April 1933)

Wiedenfeld, Kurt

Die Eisenbahn im Wirtschaftsleben Berlin, 1938

Vereinheitlichung der Gütereinteilung (Z V M E V, 10 February 1938)

Sleeping and Dining Car Services

Baumgartner

Schlafwagen und Speisewagen in Deutschland in ihrer geschichtlichen Entwicklung (V T W, 24 September 1930)

Kieschke, Dr Weiner

Die Mitropa ist 20 Jahre alt (Z V M E V, 11 February 1937)

La compagnie internationale des wagons lits et des grands express europeens (B U I C, 1929, p 119)

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Die Betriebsgesellschaft der Orientalischen Eisenbahnen (A E, 1930, p 401)

Emrich, W

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Die Donau Save-Adria Eisenbahn Gesellschaft (vormals Sudbahn Gesellschaft) im internationalen Eisenbahnverkehr (Z V M E V, 23 January 1936)

Janecke, Louis

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Knebel

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Macmahon, A W, and Dittmar, W R

Autonomous Public Enterprise—The German Railways (*Political Science Quarterly*, December 1939, March 1940, June 1940)

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Eisenbahnfragen auf der Konferenz von Portorose (A E, 1922, p 321)

Moeller, Dr

Ostpreussens Wirtschaft und Verkehr (Z V M E V, 26 July 1934)

Popper, Josef

Der Einfluss des Weltkriegs auf das ungarische Eisenbahnwesen. (A E, 1922, pp 337, 608)

Temperley, Harold

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How the Hungarian frontiers were drawn (*Foreign Affairs* April 1928)

Whitworth, C E

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Wyszomurski, Dr K

Der Güterverkehr mit dem Fernen Osten über Sibirien (Z V M E V, 29 June 1933)

The Porto Rose Conference (*International Conciliation*) No 176 July 1922)

Réorganisation administrative et technique du réseau de la compagnie des chemins de fer du Sud (Sudbahn) (B U I C, September 1925)

Lebensmittelschnellzüge in Italien (V T W, 6 August 1930)

Le cinquantenaire du Saint Gothard (B U I C, 1932, p 280)

Les grandes relations par chemins de fer (*Revue Générale des Chemins de fer*, May 1932, B U I C, 1933, pp 66, 92)

L'influence des récentes modifications de frontières en Europe centrale sur les grandes voies de communication par chemins de fer (B U I C, 1939, p 37)

B AFRICA

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Nairobi, 1937

Southern Rhodesia

Report on the Railway System of Southern Rhodesia (3 vols)
By Brig Gen F D Hammond 1925-6

Tanganyika

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Brig Gen F D Hammond 1930

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Johannesburg, September 1936

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Hailey, Lord

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Die Eisenbahnen und andere Verkehrsmittel in Franzosisch
Westafrika (A E, 1937, p 197)

Remy, Dr

Die Zukunft des Schienenweges im grossafrikanischen Ver-
kehrs problem (A.E, 1937, p 729)

Wandlungen in der kolonialen Verkehrspolitik im schwarzen
Erdeil im Zeitalter des Motors (Z V M E V, 2 September
1937)

Allgemeine Verkehrsprobleme in Afrika (V T W, 29 June
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Schultze, Dr Ernst

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Schwarz, Kurt

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Wiener, Lionel

Les chemins de fer coloniaux de l'Afrique Brussels and Paris, 1930

Die Bahnen in Britisch Westafrika (A E, 1931, p 448)

Der Kap Kairo Weg (Z V M E V, 22 July 1937)

The Jibuti Addis Ababa Railroad (Italian Library of Information, New York, February 1939)

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Die Eisenbahnen im französischen Mandatsgebiet Syrien und Libanon (A E, 1930, p 351)

Die früheren and jetzigen Bagdadbahnpläne (Z V M E V, 8 February 1934)

Die Verkehrserschliessung Iraks and Irans nach dem Mittelmeer (Z V M E V, 11 March 1937)

Der Transwustenverkehr im vorderen Orient (A E, 1938, p 449)

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